Illinois Commerce Commission

Assessment of

Central Illinois Light Company's

Annual Reliability Report and

Electric Service Reliability

For Calendar Year 2008

Pursuant to 83 Ill. Adm. Code 411.140

December 22, 2009

1. Executive Summary

Pursuant to Section 16-125 of the Illinois Public Utilities Act and the Commission's electric reliability rules as found in 83 Illinois Administrative Code, Part 411 ("Part 411"), Central Illinois Light Company ("AmerenCILCO") filed its annual electric reliability report for the 2008 calendar year. The report that AmerenCILCO filed complies with Part 411 requirements.

During 2008, AmerenCILCO's system average interruption frequency index ("SAIFI"), customer average interruption frequency index ("CAIFI"), and customer average interruption duration index ("CAIDI") all increased (worsened), indicating that AmerenCILCO's customers, on average, experienced more and longer interruptions during 2008 than during 2007. Despite the higher values, AmerenCILCO's indices indicated average or better than average performance when compared to the average of the indices of all the other reporting utilities. This, in large part, is due to particularly high reliability index values reported by MidAmerican Energy Company for 2008. AmerenCILCO's CAIDI was the second highest reported during 2008: approximately double its 2007 value. This higher CAIDI during 2008 indicates that, on average, AmerenCILCO's customers who experience interruptions were without electricity twice as long during 2008. Long duration interruptions are not new at AmerenCILCO. As an example, AmerenCILCO reported that 325 of its customers experienced more than 18 hours of total service interruption time during each of the last three years.

On a positive note, AmerenCILCO describes several new CAIDI initiatives in its 2008 reliability report, created for the purpose of decreasing its CAIDI. Staff is encouraged that AmerenCILCO is taking some proactive steps in an attempt to reduce its system CAIDI.

AmerenCILCO's efforts to improve reliability to its customers appears to Staff to be hampered, in many cases, by distribution facilities that need to be repaired or replaced before they can be expected to perform reliably. During the summer of 2009, Staff inspected AmerenCILCO's facilities on several different distribution circuits. Staff was concerned by the condition of AmerenCILCO's facilities at a number of locations on these circuits where, in Staff's opinion, maintenance should be performed promptly. These included locations where existing hardware attached to the pole needed to be tightened, but also included locations with damaged/deteriorated poles and cross arms that, in Staff's opinion, needed to be replaced. In addition, Staff noted several National Electrical Safety Code ("NESC") violations: conductor with inadequate ground clearance and inadequate conductor support at rail crossings. Staff's specific inspection findings, which were previously provided to AmerenCILCO, are included as Attachment A to this assessment report.

During 2009, Staff inspected four of AmerenCILCO's distribution circuits for which AmerenCILCO reported 2008 SAIFI values that were higher than AmerenCILCO's system average. As a result of its inspections, Staff suggests that, at least for some of its circuits, AmerenCILCO needs to focus more resources on basic utility maintenance such as trimming trees and repairing or replacing crossarms, crossarm braces, and poles.

Staff was very encouraged that AmerenCILCO, along with AmerenCIPS and AmerenIP, appear to be taking more seriously their obligation to periodically inspect their own

facilities to stay informed about the condition of distribution assets. However, identifying existing and/or potential problems on the distribution system is only a partial solution. Staff believes AmerenCILCO should act upon its inspectors' findings more promptly in order to prevent interruptions from happening: interruptions that might occur because the utility did not get around to fixing a problem that it knew might create a service interruption. For example, six of AmerenCILCO's customers, supplied by Circuit B93-002 (in Marshall County), experienced 14 interruptions totaling 143 hours of duration time (an equivalent of nearly 6 days) during 2008. Staff recognizes that during severe weather events some interruptions are likely to occur, however AmerenCILCO should take all reasonable steps to make sure that none of its customers experience so many interruptions or have to endure so much time without electricity.

As a result of reviewing AmerenCILCO's reliability report and AmerenCILCO's responses to data requests, and as a result of Staff's own inspections of AmerenCILCO's facilities, Staff concluded that:

- AmerenCILCO should monitor the condition of its distribution facilities more closely, and/or take action to eliminate threats to reliable service that exist on its distribution system. In 2007, Ameren implemented a system-wide inspection program at all three of its Illinois electric utilities, and Staff is hopeful that AmerenCILCO is able to utilize this program to make itself aware of the condition of its own facilities.
- AmerenCILCO should allocate adequate resources for prompt repair of damaged or deteriorated distribution facilities that it discovers through its inspections. AmerenCILCO must correct the problems that it discovers in order for its inspection program to be useful.
- AmerenCILCO should improve service to individual customers who experience interruptions in excess of reliability targets. These individual customers, or groups of customers, have already experienced worse than average service, so AmerenCILCO should do what it can to make its service better. This should include a circuit patrol to identify and remove any reliability threats that may have developed since the prior facility inspection.
- AmerenCILCO should maintain and/or expand its efforts to reduce CAIDI. AmerenCILCO described several CAIDI Initiatives in its annual report, which Staff believes are a good start as an attempt to reduce CAIDI. AmerenCILCO's CAIDI initiatives include: new subtransmission planning criteria that considers outage duration; installation of automated switches; verification of customer records for outage reporting; and development of a line switch inspection program.
- AmerenCILCO should continue its efforts to reduce the number and impact of underground equipment related interruptions. AmerenCILCO should consider supplementing its practice of replacing cable sections that have had multiple failures with a proactive general replacement of cable types that have exhibited poor performance.

- AmerenCILCO's tree trimming personnel should clear trees away from its power lines in such a manner that the trees will not grow back into the power lines prior to being trimmed again. During its 2009 inspections, Staff observed many locations with tree contacts, indicating the trees need to be trimmed either more frequently or more aggressively.

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2. Introduction

This document assesses the reliability report that Central Illinois Light Company ("AmerenCILCO") filed with the Commission, and evaluates AmerenCILCO's reliability performance for the 2008 calendar year.

Beginning with the year 1999 and at least every three years thereafter, 83 Illinois Administrative Code Part 411.140 requires the Commission to assess the annual reliability report of each jurisdictional entity and evaluate the entity's reliability performance. Code Part 411.140 requires the Commission's evaluation to:

A) Assess the reliability report of each entity.

B) Assess the jurisdictional entity's historical performance relative to established reliability targets.

C) Identify trends in the jurisdictional entity's reliability performance.

D) Evaluate the jurisdictional entity's plan to maintain or improve reliability.

E) Identify, assess, and make recommendations pertaining to any potential reliability problems and risks that the Commission has identified as a result of its evaluation.

F) Include a review of the jurisdictional entity's implementation of its plan for the previous reporting period.

3. Customers and Service Territory

During 2008, AmerenCILCO provided electric service to approximately 214,000 customers in a service area that covers about 3,700 square miles. AmerenCILCO supplies 136 communities, including urban areas in and around Peoria, East Peoria, Pekin, Lincoln, and parts of Springfield. AmerenCILCO also supplies electricity to customers in rural areas surrounding these communities, and in two smaller rural areas south of the communities of Champaign and Danville.

4. Description of Distribution System

In its reliability report, AmerenCILCO states that its distribution facilities consist of more than 100 substations that supply 310 distribution circuits and about 7,800 miles of line. Approximately 74% of these miles are overhead, and 26% are underground. Approximately 91% of AmerenCILCO's distribution circuits operate at 12kV, and 9% operate at 4 kV. AmerenCILCO also operates and maintains 14 transmission and switching substations, and 34 industrial/wholesale substations.

Subsection 411.120(b)(3)(G) requires AmerenCILCO to report on the age and condition of its distribution and transmission facilities. AmerenCILCO stated that it conducts periodic patrols and performs corrective and preventative maintenance to keep its system operating as designed. AmerenCILCO reported that it believes its T&D system has been constructed, operated, and maintained in a manner that should ensure safe and reliable operations.

In 2007, Ameren implemented an inspection program at all three of its Illinois utilities. Staff believes this was a positive step that should allow AmerenCILCO, AmerenCIPS, and AmerenIP, to stay more aware of the condition of their electric distribution facilities.

In its report, AmerenCILCO provided the information shown in Table 1 regarding the age of its distribution equipment investments:

Table 1: Average Age of Various Types of Distribution Equipment

Type of Distribution Equipment	Depreciable Life (Years)	Average Age (Years)
Substation Equipment	34	19.3
Poles and Fixtures	36	19.7
Dist. Transformers	33	18.3
UG conductor and devices	25	15.2

5. Assessment of Company's Reliability Report

83 Illinois Administrative Code Part 411.120(b) requires each non-exempt jurisdictional entity to file an annual reliability report for the previous calendar year by June 1 of the current year. AmerenCILCO's reliability report was filed on schedule, and contained all the information Subsection 411.120(b)(3) requires. Staff found AmerenCILCO's reliability report to be organized in a logical manner so that finding information within the report and the attachments was not difficult.

6. Historical Performance Relative to Established Reliability Targets

Subsection 411.140(b)(4)(A-C) establishes electric service reliability targets that jurisdictional entities (electric utilities) must strive to meet. These targets specify the number of customer interruptions and interruption duration that each utility must strive not to exceed for any customer. Subsection 411.120(b)(3)(L) requires each utility to provide a list of every customer, identified by a unique number, who experienced interruptions in excess of these service reliability targets. For each customer who experiences interruptions that exceed the targets, the utility must provide the number of interruptions the customer experienced in each of the three preceding years, the interruption duration the customer experienced in each of the three preceding years, and the number of consecutive years in which the customer has experienced interruptions in excess of the reliability targets.

In April 2004, all regulated Illinois electric utilities agreed to report on all interruptions (controllable and uncontrollable) in relation to the service reliability targets for the reporting periods of 2003 through 2007, and to include the specific actions, if any, that the utility plans to take, or has taken, to address customer reliability concerns. In January 2008, the utilities extended this agreement through year 2012.

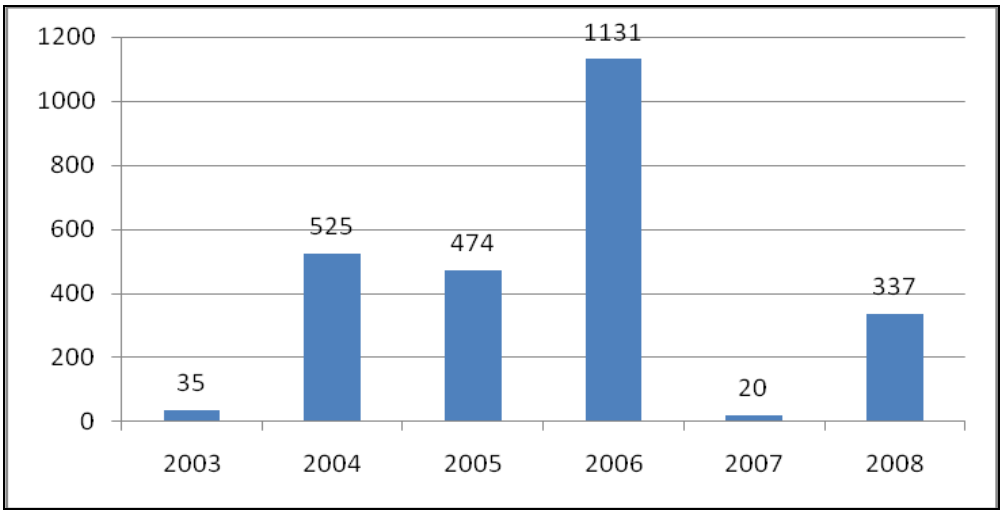
The Commission's service reliability targets contained in Subsection 411.140(b)(4) are listed in Table 2:

Table 2: Customer Service Reliability Targets

Immediate primary source of service operation voltage	Maximum number of interruptions in each of the last three years	Maximum hours of total interruption duration in each of the last three years
69kV or above	3	9
Between 15kV & 69kV	4	12
15kV or below	6	18

Data within AmerenCILCO's annual report for 2008 indicates that 337 of AmerenCILCO's distribution customers that are supplied at 15kV or below experienced interruptions in excess of the reliability targets. Twelve of these 337 customers experienced at least 7 interruptions during each of the last 3 consecutive calendar years, and 325 experienced at least 18 hours of interruption duration during each of the last 3 years. Figure 1 illustrates that the number of AmerenCILCO customers that experience interruptions in excess of reliability targets has varied considerably over the past several years. For AmerenCILCO, it has been more common for the duration target to be exceeded rather than the frequency target.

Figure 1: The number of AmerenCILCO Customers Experiencing Interruptions in Excess of Reliability Targets



Sixty-three of the customers identified in AmerenCILCO's supplemental report experienced more than six interruptions and more than 18 hours of interruption duration during 2008. Six of these customers, supplied by Circuit B93-002 (in Marshall County), experienced more interruptions and longer duration of interruptions during 2008 than did other AmerenCILCO customers: 14 interruptions totaling 143 hours of duration time (an equivalent of nearly 6 days).

Subsection 411.140(b)(4)(D) requires that the Commission's assessment determine if AmerenCILCO has a process in place to identify, analyze, and correct service reliability for customers who experience a number or duration of interruptions that exceeds the reliability targets. AmerenCILCO has demonstrated it can identify customers who experience interruptions that exceed the targets, but it is not apparent to Staff that AmerenCILCO's process to correct service reliability issues for those customers is as effective as it should be.

For example, AmerenCILCO's supplemental report includes actions taken and planned in order to improve reliability for customers who experience interruptions in excess of reliability targets. During 2008, AmerenCILCO had four customers who experienced more than 18 hours of interruption duration during each of the past six years (2003-2008). Two of these customers are supplied by Circuit # C50-003 (in McLean County), and two are supplied by Circuit # E10-001(in Dewitt County). For the two customers supplied by Circuit # E10-001, beyond making repairs at the time those interruptions

occurred, the only additional corrective action AmerenCILCO identified was its circuit wide maintenance tree trimming in 2007. AmerenCILCO stated it plans to trim trees again in 2011. These two customers experienced more than 29 hours of interruption duration in 2008, more than 20 hours in 2007, more than 350 hours in 2006 (14.5 days), more than 32 hours in 2005, more than 108 hours in 2004, and more than 55 hours in 2003. AmerenCILCO's only action plan to improve service for these customers is to perform tree-trimming per its normal tree-trimming maintenance cycle in 2011.

As another example, during 2008, AmerenCILCO had 82 customers on Circuit C30-002 experience in excess of 18 hours of interruption duration for three consecutive years 2006-2008. Beyond making repairs at the time of the outages, AmerenCILCO's only corrective action was to perform its circuit-wide maintenance tree trimming during 2007. Its only planned activity for the future is to perform its circuit-wide maintenance tree trimming again in 2011. Again, AmerenCILCO does not report any specific action to improve its service for these customers who have been experiencing long duration interruptions.

Staff believes AmerenCILCO should take steps to find and eliminate reliability threats so that fewer customers experience so many interruptions or interruptions that last so long. In its supplemental report, AmerenCILCO indicated that severe weather caused the majority of interruptions to customers who experienced interruptions in excess of the reliability targets. However, severe weather did not cause all of the interruptions. AmerenCILCO should minimize interruptions to its customers by inspecting its distribution system, then promptly repairing or replacing those facilities that it finds to be in a poor or deteriorated condition.

7. Analysis of Reliability Performance

Reliability indices can be used to compare the reliability performance of several utilities, and provide an indication of whether an individual utility's performance is improving or degrading over time. Since each reporting utility uses its own reporting and recording methods, direct reliability index comparisons between utilities are not exact, but can still be informative. Table 3 (a-c) shows the SAIFI, CAIDI, and CAIFI indices for 2008 as submitted by each reporting utility. The order of each index table is from best to worst performance:

Table 3: Year 2008 Reliability Indices for Reporting Utilities

a) SAIFI

UTILITY	SAIFI
ComEd	1.33
AmerenIP	1.41
AmerenCILCO	**1.75**
AmerenCIPS	1.88
MidAmerican	4.17
Mt. Carmel	4.30

b) CAIDI

UTILITY	CAIDI
Mt. Carmel	69
ComEd	180
AmerenIP	198
AmerenCIPS	222
AmerenCILCO	**303**
MidAmerican	880

c) CAIFI

UTILITY	CAIFI
ComEd	2.08
AmerenIP	2.20
AmerenCILCO	**2.37**
AmerenCIPS	2.55
MidAmerican	4.35
Mt. Carmel	4.35

SAIFI= $\frac{\text{Total \# Customer Interruptions}}{\text{Total \# of Customers Served}}$ **CAIDI=** $\frac{\text{Sum of all Interruption Durations}}{\text{Total \# of Customer Interruptions}}$ **CAIFI=** $\frac{\text{Total \# Customer Interruptions}}{\text{Total \# of Customers Affected}}$

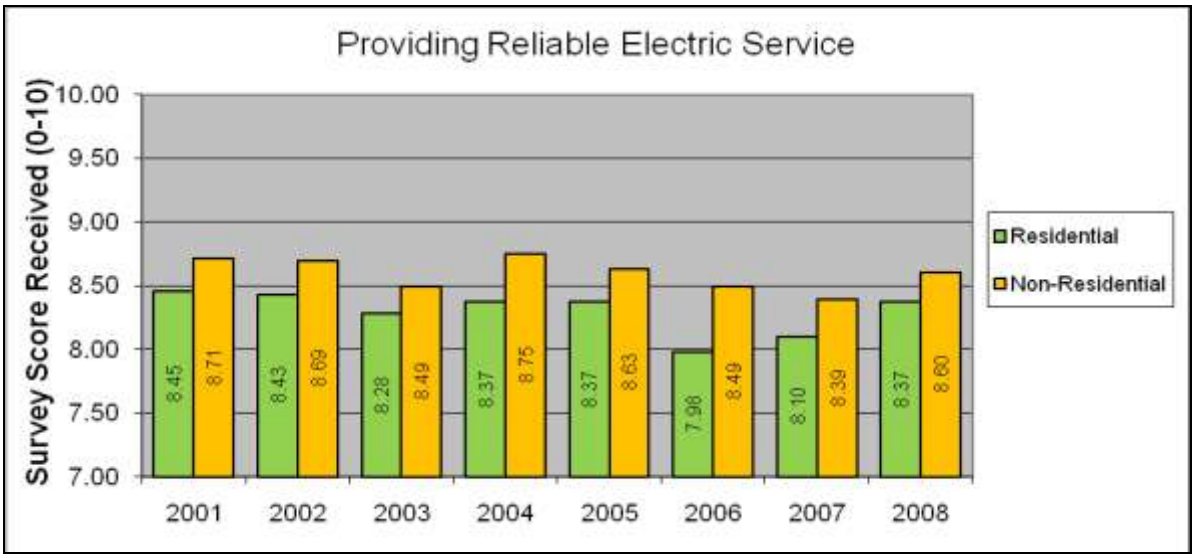
When comparing the indices reported by all the utilities that filed reliability reports for 2008, Staff observed:

- AmerenCILCO's SAIFI of 1.75 was the 3rd lowest SAIFI reported: about 33% lower than the average of the values reported by the other five utilities.
- AmerenCILCO's CAIDI of 303 was the 2nd highest CAIDI reported, but because of extremely high CAIDI reported by MidAmerican Energy Company, AmerenCILCO's CAIDI was about 2% lower than the average of the values reported by the other five utilities.
- AmerenCILCO's CAIFI of 2.37 was the 3rd lowest CAIFI reported: nearly 24% lower than the average of the values reported by the other five utilities.

AmerenCILCO reported a CAIFI of 1.42 for its 4,074 customers who purchase power from an alternative retail electric supplier ("ARES") or other utility during 2008. This CAIFI value indicates that, on average, customers who purchased power from a supplier other than AmerenCILCO experienced fewer interruptions than AmerenCILCO's traditional customers, which suggests that AmerenCILCO provided no preferential treatment to customers during 2008.

The results of an annual independent survey indicate that during the 2008 calendar year AmerenCILCO's residential customers gave AmerenCILCO an average reliability score of 8.37 out of 10, and its non-residential customers gave AmerenCILCO an average reliability score of 8.60 out of 10. Figure 2 illustrates that in 2008, AmerenCILCO's customers rated AmerenCILCO's reliability performance better than during 2006 or 2007, returning a rating that is very similar to the 2005 survey result.

Figure 2: AmerenCILCO's Survey Scores for Providing Reliable Electric Service (2001-2008)



AmerenCILCO stated that during 2008 it received 14 complaints relating to reliability, 3 relating to tree trimming, and 15 related to the utility's timeliness of repairs. AmerenCILCO stated that all complaints were resolved.

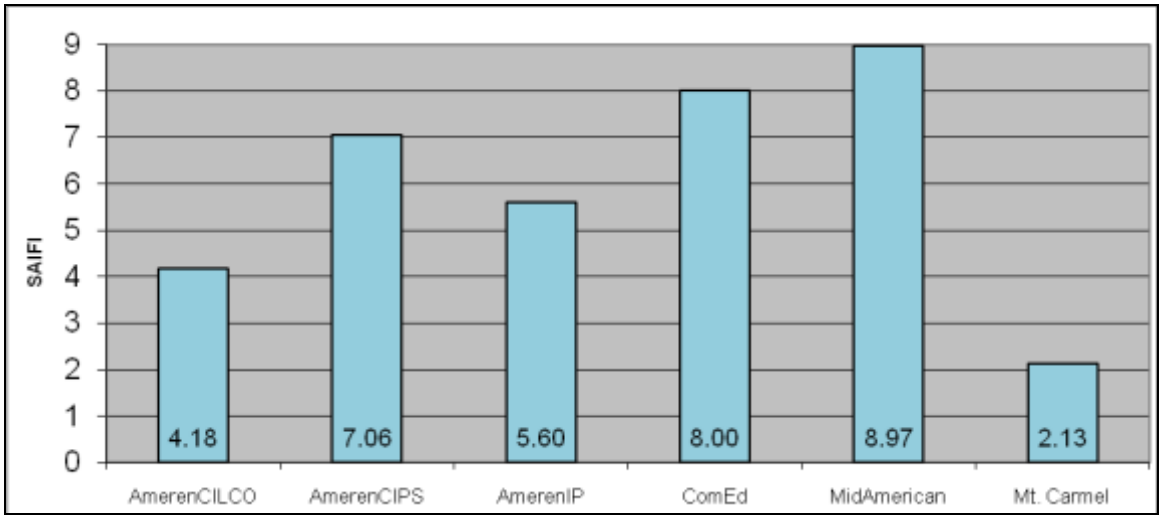
Worst Performing Circuits

Section 411.120 requires utilities to report worst performing circuits and state corrective actions taken or planned to improve the performance of those circuits. Worst performing circuits for each reporting utility are its 1% of circuits that had the highest SAIFI, CAIDI, and CAIFI during the report year. For 2008, AmerenCILCO reported eight circuits as worst performing circuits: four circuits due to both SAIFI and CAIFI, and four circuits due to CAIDI.

In its annual report, a utility must report on its worst performing circuits even if all its circuits performed well during the year: the Part 411 requirement is simply that the utility report its circuits that performed the worst based on each reliability index. Since designating a circuit as a worst performing circuit does not necessarily indicate that the circuit performed poorly, comparing the index values for worst-case circuits from utility to utility can be useful when assessing the relative performance of distribution circuits among several utilities.

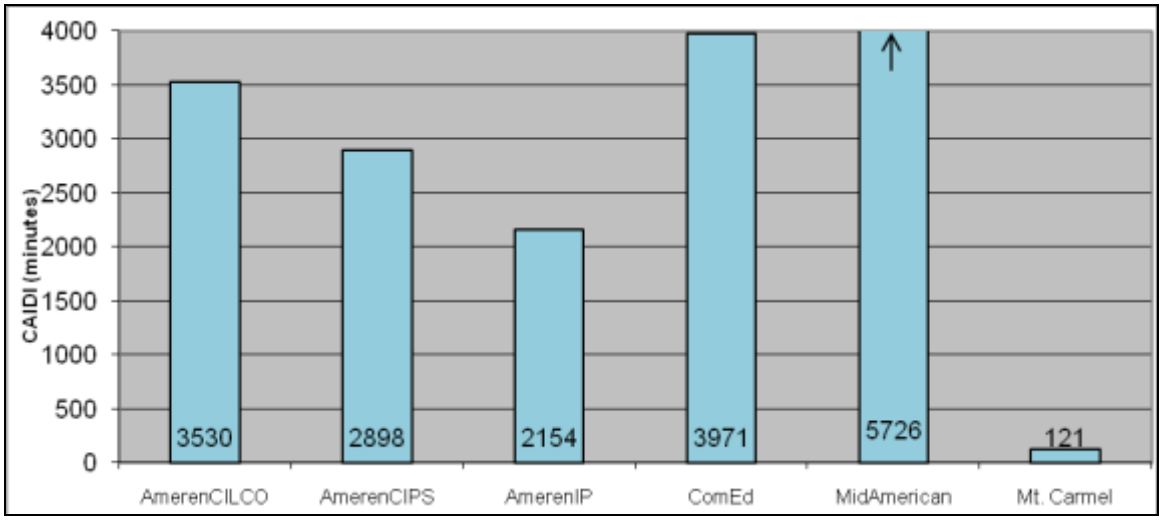
- As illustrated by Figure 3, the highest values of SAIFI reported by each utility for individual distribution circuits (worst performing) for the 2008 calendar year ranged from 2.13 for Mt. Carmel Public Utility Company ("MCPU") to 8.97 for MidAmerican Energy Company ("MEC"). The SAIFI associated with AmerenCILCO's highest SAIFI circuit, Circuit D87001, was 4.18: the second lowest (best). For 2007, the SAIFI for Circuit D87001 was 1.48. For 2007, AmerenCILCO's worst-case SAIFI was for Circuit A91002, which had a SAIFI of 4.97. The SAIFI value for Circuit A91002 was a much improved 0.76 for the 2008 calendar year.

Figure 3: Highest (Worst Case) SAIFI for each Utility's 2008 Worst Performing Circuits



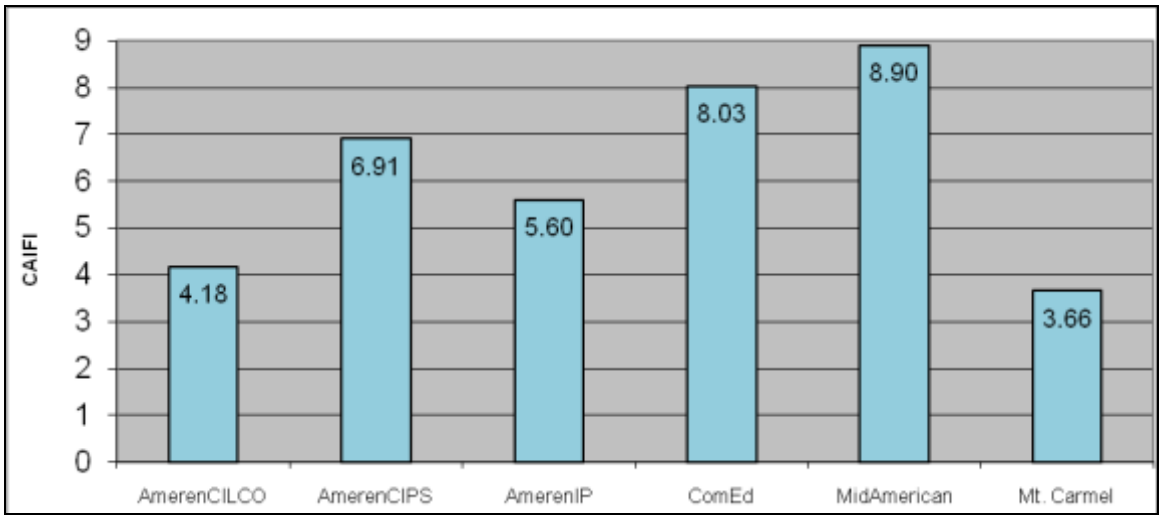
- As illustrated by Figure 4, the highest values of CAIDI reported by each utility for individual distribution circuits for the 2008 calendar year ranged from 121 for MCPU to 5726 for MEC. The CAIDI associated with AmerenCILCO's highest CAIDI circuit, Circuit D87002, was 3530: the third highest. Circuit D87002 is supplied by the same substation as AmerenCILCO's worst SAIFI circuit, Circuit D87001. For 2007, the CAIDI for Circuit D87002 was only 57 minutes. For 2007, AmerenCILCO's worst-case CAIDI was for Circuit D01002, which had a CAIDI of 968 minutes. The CAIDI value for Circuit D01002 remained fairly high, at 766, for the 2008 calendar year.

Figure 4: Highest (Worst Case) CAIDI for each Utility's 2008 Worst Performing Circuits



- As illustrated by Figure 5, the highest values of CAIFI reported by each utility for individual distribution circuits for the 2008 calendar year ranged from 3.66 for MCPU to 8.90 for MEC. The CAIFI associated with AmerenCILCO's highest CAIFI circuit, Circuit D87001, also the highest SAIFI circuit, was 4.18: the second lowest. For 2007, the CAIFI for Circuit D87001 was 2.02. For 2007, AmerenCILCO's worst-case CAIFI was for Circuit A91002, which had a CAIFI of 4.97. The CAIFI value for Circuit A91002 was a much improved 1.29 for the 2008 calendar year.

Figure 5: Highest (Worst Case) CAIFI for each Utility's 2008 Worst Performing Circuits



AmerenCILCO included information in its reliability report regarding the performance and operating and maintenance history of its circuits designated as worst performing. For all eight worst performing circuits, AmerenCILCO states that a third party contractor circuit inspection was completed in 2009, and that repair work associated with these inspections should be completed by year end 2010. For many of its worst performing circuits, including its worst CAIDI circuit, AmerenCILCO states that the majority of outages were the result of a major ice storm in December of 2008.

Staff agrees with and is encouraged by AmerenCILCO's practice of inspecting its worst performing circuits and developing work requests to repair problems discovered as a result of those inspections. This is the best way for AmerenCILCO to become and remain aware of the condition of its distribution system.

Staff is concerned, though, about the amount of time that AmerenCILCO allows to elapse prior to completing its repairs on worst performing circuits. AmerenCILCO stated in its report, which was filed on June 1, 2009, that it had not yet estimated costs or put together the work requests instructing the construction crews to perform the repairs identified by its inspectors. AmerenCILCO stated it plans to complete its repairs by the end of 2010 -on distribution circuit that performed poorly during 2008.

Staff strongly recommends that AmerenCILCO modify its practices so that it can more quickly identify and remove reliability threats and/or implement reliability improvements on its worst performing circuits. It should not take a utility two years to identify a problem circuit and to develop and execute its remedial actions. AmerenCILCO's practice of taking so long to complete remediation on some of its circuits indicates to Staff that AmerenCILCO does not always give this work a very high priority.

Staff's Circuit Inspections

Staff inspected four of AmerenCILCO's distribution circuits during the summer of 2009 that were either worst performing circuits during 2008, or were circuits that had higher than average SAIFI indices during that year. Representatives from AmerenCILCO accompanied Staff during these inspections. Staff found that most of the facilities making up AmerenCILCO's circuits appeared to be in good condition, but Staff noted many locations where AmerenCILCO should trim trees or repair/replace facilities, such as poles, cross arms, and braces. Staff pointed out these locations to the utility representatives that accompanied Staff during the inspections, and later conveyed them to AmerenCILCO via email (see Attachment A). Specific information about each of AmerenCILCO's circuits that Staff inspected during 2009 follows:

- *Circuit D87-001 (13.2 kV): (SAIFI=4.18; CAIDI=248; CAIFI=4.18)*

  Circuit D87-001, a worst performing circuit during 2008, had a higher SAIFI than any of AmerenCILCO's other distribution circuits. It supplies 1218 customers in the mostly rural areas near the community of Spring Bay, on the east side of the Illinois River, northeast of Peoria. Of the 60 interruptions that occurred on this circuit during 2008, AmerenCILCO reported that 25 were tree related, 17 were related to overhead equipment failure, 5 to underground equipment failure, 4 to animals, and 2 to weather. AmerenCILCO reported that 5 interruptions were due to unknown causes. Tree trimming on Circuit D87-001 was last completed in December 2006, with a mid-cycle patrol scheduled for 2009. AmerenCILCO performed its own inspection of Circuit D87-001 in 2008, and identified many locations where repairs were recommended, including adding guy guards, replacing cross arms and braces, repairing grounds, repairing down guys and overhead guys, and repairing risers. AmerenCILCO did not provide a schedule for completing work at specific locations on Circuit D87-001 that were identified through its inspection, but stated in its annual report that it expects to have all of the work completed by the end of 2010.

  When inspecting Circuit D87-001, Staff noted that AmerenCILCO had installed an impressive electrified animal fence around its distribution equipment inside the

substation perimeter fence (Photo 1). Out on the distribution circuit, Staff observed a number of reliability concerns, including several locations where conductor clearances over the ground did not comply with National Electrical Safety Code ("NESC") requirements. Additional facility issues that Staff noted included deteriorated cross arms and/or deteriorated or detached braces at 4 locations (Photo 2-4), deteriorated pole tops at 8 locations (Photo 5), leaning poles at 4 locations (Photo 6), damaged ground wires at 3 locations, a blown lightning arrester, and 21 locations where vegetation was either contacting or very close to primary conductors (Photos 7-8).

Photo 1: Additional animal fence surrounds distribution equipment inside substation.

Photo 2: Cross arm base twisted away from pole with top deteriorated down to bolts (D87-001)

Photo 3: Detached brace, and nut missing from insulator pin. (D87-001)

Photo 4: Two disconnected braces on double arm (D87-001)

Photo 5: Deteriorated pole top with insulator pin coming loose (D87-001)

Photo 6: Pole with oil-filled transformer leaning over on hillside. (D87-001)

Photo 7: Tree grown through and around primary and neutral conductors. (D87-001)

Photo 8: Vines grown up pole to primary. (D87-001)

- *Circuit C00-001 (12 kV): (SAIFI=3.72; CAIDI=216; CAIFI=3.72)*

  Circuit C00-001 supplies 404 customers in the rural areas to the south and west of Sparland, which is a community northeast of Peoria on the west side of the Illinois River. Though Circuit C00-001 was not one of AmerenCILCO's worst performing circuits during 2008, this circuit's SAIFI was significantly higher than AmerenCILCO's system average SAIFI of 1.75. Of the 41 electric service interruptions that occurred on this circuit during 2008, AmerenCILCO attributed 13 to overhead equipment failure, 9 to underground equipment failure, 8 to animals, 4 to unknown causes, and 1 to trees. In addition AmerenCILCO attributed 6 interruptions to "other". AmerenCILCO last completed tree trimming on Circuit C00-001 in January of 2008. AmerenCILCO most recently performed its own inspection of Circuit C00-001 in November of 2008.

  Staff observed that at AmerenCILCO's Cornell Substation, which is the source for Circuit C00-001, AmerenCILCO had again installed an electrified animal fence around its distribution equipment inside the perimeter fence. The substation grounds appeared to be very well maintained (Photo 9). When inspecting Circuit C00-001, Staff observed nine locations where vegetation was contacting or growing close to the primary conductor (Photos 10-11). Other potential reliability threats that Staff observed included deteriorated poles at 21 locations (Photos 12-13), deteriorated cross arms and/or deteriorated or detached braces at 6 locations (Photo 14-15), and an NESC violation where a down guy was too low over a driveway. Staff also noted several locations where AmerenCILCO's hardware was loose or missing (Photos 13, 15-16), and a location where an animal guard was simply laying

on top of a transformer (Photo 17). Given that AmerenCILCO had completed its tree trimming in January 2008, and had completed its own inspection in November, Staff found the number of locations that had vegetation contacts or needed repair on Circuit C00-001 to be surprisingly high.

Photo 9: AmerenCILCO's Cornell Substation's animal fence (Supplies Circuit C00-001)

Photo 10: Vines grown to top of pole (C00-001)

Photo 11: New tree growth blowing into primary conductor (C00-001)

Photo 12: Deteriorated, splitting pole top (C00-001)

Photo 13: Woodpecker hole at loose lower bolt of pole top pin, while upper bolt is nearly out of pole (C00-001)

Photo 14: Missing brace with wooden primary insulator pin fallen through arm (C00-001)

Photo 15: Deteriorated double arm with bolt attaching arms to pole coming loose (C00-001)

Photo 16: Bottom bolt coming out of pole top pin (C00-001)

Photo 17: Animal Guard setting between transformer bushings (C00-001)

- *Circuit C70-001 (12 kV): (SAIFI=2.72; CAIDI=309; CAIFI=2.72)*

  Circuit C70-001 supplies electricity to nearly 1150 customers on the southwest edge of Springfield and the rural areas further to the west, including the small community of Curran. Circuit C70-001 was not a worst performing circuit during 2008, but AmerenCILCO reported a SAIFI for this circuit that was higher than its system average value of 1.75. Of the 51 interruptions occurring on this circuit during 2008, 21 were attributed to overhead equipment failure, 9 to underground equipment malfunctions, 7 to trees, 6 to animals, and 3 to the public. AmerenCILCO categorized four interruptions as "other," and one as "unknown". AmerenCILCO did not provide the date of its most recent inspection of Circuit C70-001, but stated tree trimming on this circuit was last completed in July of 2006, with a mid-cycle inspection scheduled for 2008.

  When inspecting Circuit C70-001 during August of 2009, Staff noted 53 locations where vegetation was contacting, or very close to, the primary conductor (Photos 18-19). In addition, Staff noted 10 locations where hardware was loose or missing (Photos 20-22), 11 locations where pole tops, arms, or braces were deteriorated and/or damaged (Photos 23-25), 7 locations where ground connections were broken or missing, 2 locations where poles were leaning rather severely, and 1 location with significant woodpecker damage to AmerenCILCO's pole. Staff also noted one location where an animal guard had migrated up a jumper so that it was no longer effective (Photo 26), and 2 locations where AmerenCILCO's map did not appear to reflect the location of its facilities in the field. Staff identified 5 NESC violations: three involving inadequate conductor height, and two involving improper framing at railroad crossings (Photo 27).

Photo 18: Vegetation completely covering pole to primary level (C70-001)

Photo 19: Tree growing between primary and neutral conductors (C70-001)

Photo 20: Both nuts missing from pole top pin bolts, and bolts coming out of pole (C70-001)

Photo 21: Bolts loose at pole top pin and cross arm (C70-001)

Photo 22: Transformer bracket appears to be coming loose from pole (C70-001)

Photo 23: Top of pole splitting so that pole top pin is loose and leaning over (C70-001)

Photo 24: Splitting pole top causing pole top pin to lean over (C70-001)

Photo 25: Deteriorated pole top, splitting arm, and broken cross arm brace (C70-001)

Photo 26 Animal guard appears to have slid up jumper so that it no longer covers transformer bushing (C70-001)

Photo 27: Single cross arm rather than double for top conductors where line crosses railroad (C70-001)

- *Circuit C70-002 (SAIFI=3.34; CAIDI=360; CAIFI=3.35)*

  Circuit C70-002 supplies approximately 275 customers in the rural area west of Springfield, including the community of Berlin. AmerenCILCO reported Circuit C70-002 had a higher than average SAIFI during 2008. Of the 19 sustained interruptions that occurred on Circuit C70-002 during 2008, AmerenCILCO attributed 12 to overhead equipment failures, 4 to trees, and 3 to underground equipment failures. AmerenCILCO last completed tree trimming during February of 2006 and last performed its own inspection of the circuit in July of 2008.

  When inspecting Circuit C70-002 Staff observed 22 locations where vegetation was close to or contacting the primary conductor. Other than these vegetation issues, the condition of AmerenCILCO's facilities appeared to be relatively good: better than the condition of Circuit C70-001, which is supplied by the same substation. Staff identified a location where the primary conductor had inadequate ground clearance, a location with a deteriorated pole top, and what appeared to be a broken cross arm. Staff noted loose hardware at 2 locations, and several taps where fusing could be added to improve circuit reliability.

Tree Trimming:

In its reliability report, AmerenCILCO aggregated information about tree trimming for all three Ameren Illinois Utilities ("AIU"). AmerenCILCO stated that AIU, as a whole, is trimming the trees adjacent to its distribution circuits on a four year cycle, and that the three utilities trimmed 94% of the 7874 circuit miles that they intended to trim during

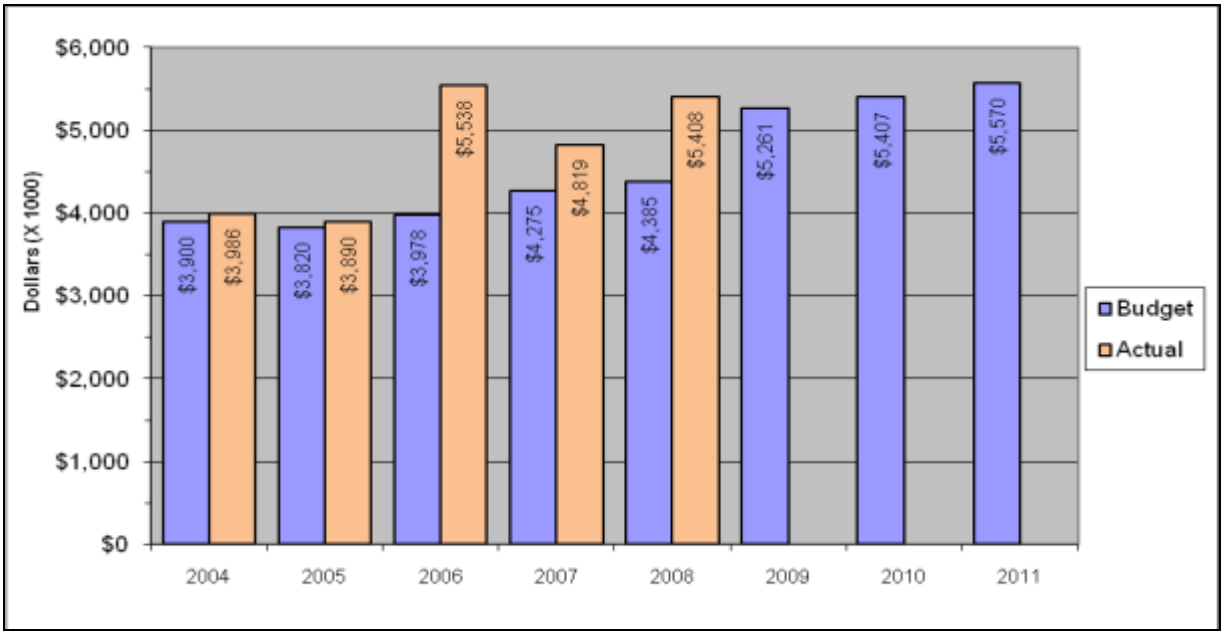
2008. Separately, as part of its rate case compliance filing in Docket 09-0306, AmerenCILCO indicated that at the end of 2008, 14% of its distribution system went beyond a 4-year trim cycle (38 out of 280 circuits). AmerenCILCO further reported it had fallen behind because crews were relocated to other divisions in February for storm restoration, and because a December storm delayed completion of some feeders until January of 2009. AmerenCILCO indicated that none of its circuits went longer than 51 months since the prior tree trimming. While Staff understands that AmerenCILCO might have had valid reasons for temporarily falling behind on the 4-year tree-trimming cycle, AmerenCILCO needs to catch back up.

AmerenCILCO reported there were 1939 tree related electric service interruption events during 2008, compared to 395 in 2007, 260 in 2006, and 231 in 2005. In other words, more than twice as many tree-related interruption events occurred during 2008 than occurred in the previous three years combined. AmerenCILCO experienced some severe weather during 2008, which could explain why the number of tree-related interruption events increased. However, when inspecting circuits during 2009, Staff noted many locations where vegetation was close to or contacting AmerenCILCO's distribution circuits. Staff is concerned that, though AmerenCILCO might be trimming trees every four years, the trees are growing into the primary lines before AmerenCILCO returns to trim the trees again as part of its normal trim cycle. In addition, AmerenCILCO's mid-cycle patrols can only be effective if they result in problem trees being identified and trimmed between regular trim cycles. Observing so many tree contacts in the field during Staff's 2009 inspections of AmerenCILCO's distribution circuits caused Staff to conclude that AmerenCILCO's tree trimming efforts could be more effective.

AmerenCILCO reported that during 2008 it began identifying tree-related outages at a circuit level, so that if recurring tree interruptions occur, tree trimming will be scheduled prior to the next regular trim cycle. Staff believes this new procedure is an excellent approach for attempting to improve the effectiveness of tree trimming.

Figure 6 illustrates AmerenCILCO's budgeted and actual expenditures for tree trimming for the years 2004-2008, and its budgeted tree trimming expenditure for 2009-2011. The information shown indicates that AmerenCILCO plans to increase its expenditures for tree trimming in the years 2009-2011. Staff agrees with AmerenCILCO's plan to increase its tree trimming effort because during Staff's inspections Staff found trees contacting AmerenCILCO's distribution lines at many locations.

Figure 6: AmerenCILCO's Actual and Budgeted Tree Trimming Expenditures

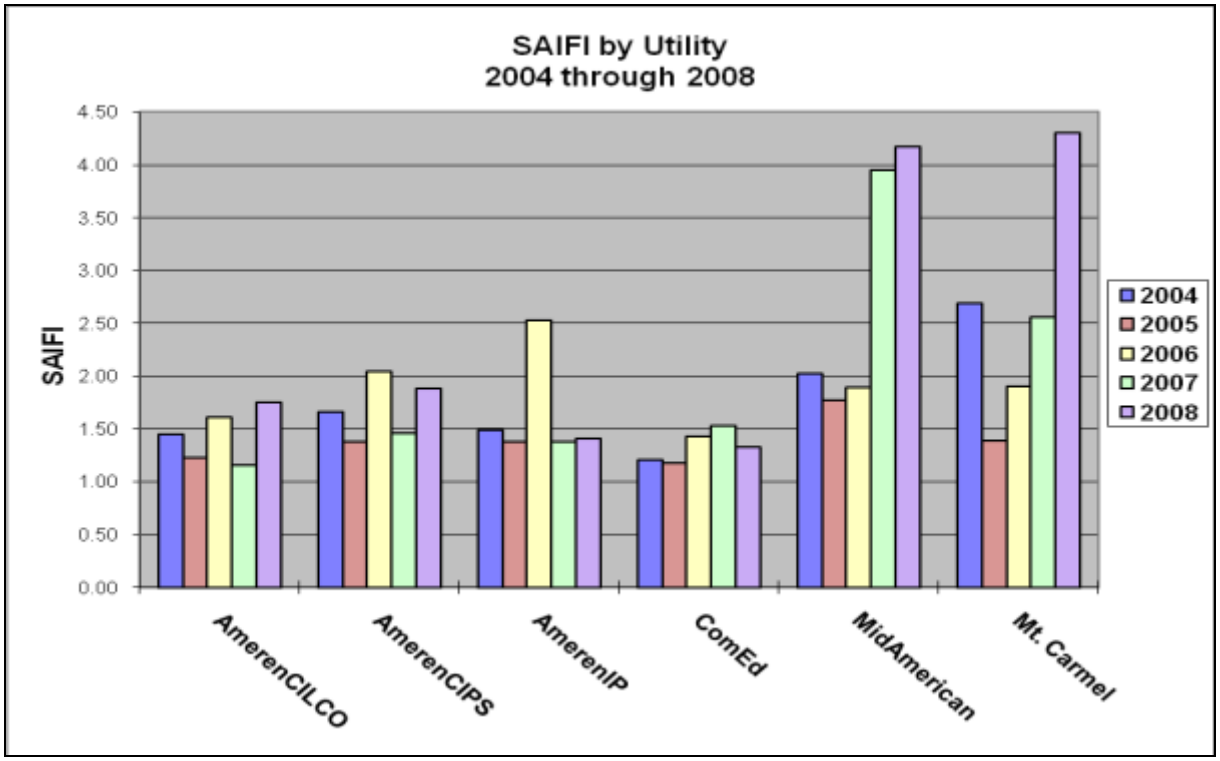


8. Trends in Reliability Performance

A summary of trends in AmerenCILCO's reliability performance follows:

- *SAIFI:* Figure 7 shows system SAIFI values for years 2004-2008 for all reporting electric utilities:

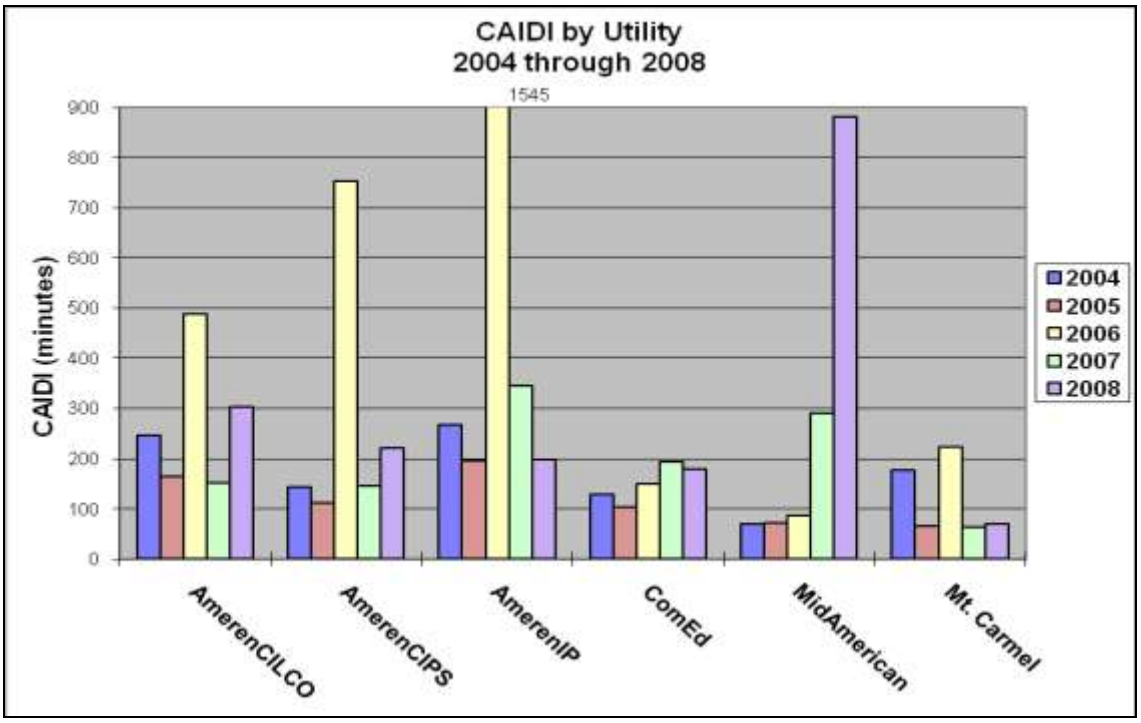
Figure 7: SAIFI by Utility (2004-2008)



- In 2004, AmerenCILCO's reported SAIFI was about 3% lower (better) than the average of the SAIFI values reported by the eight other reporting utilities (AmerenCILCO's 2004 SAIFI = 1.45).
- In 2005, AmerenCILCO' reported SAIFI decreased (improved) by approximately 15%, and was very close to the average of the SAIFI values reported by the seven other reporting utilities (AmerenCILCO's 2005 SAIFI=1.23).[1]
- In 2006, AmerenCILCO' reported SAIFI increased (worsened) by approximately 30%, but was nearly 18% lower (better) than the average of the SAIFI values reported by the five other reporting utilities (AmerenCILCO's 2006 SAIFI = 1.61).[2]
- In 2007, AmerenCILCO's SAIFI decreased (improved) by approximately 28%, and was nearly 47% lower (better) than the average of the SAIFI values reported by the five other reporting utilities (AmerenCILCO's 2007 SAIFI=1.16).
- In 2008, AmerenCILCO's SAIFI increased (worsened) by approximately 51%, but even so was about 33% lower (better) than the average of the SAIFI values reported by the five other reporting utilities due to the particularly high values reported by MEC and MCPU (AmerenCILCO's 2008 SAIFI=1.75).

➢ *CAIDI:* Figure 8 shows system CAIDI values for years 2004-2008 for all reporting electric utilities*:*

Figure 8: CAIDI by Utility (2004-2008)



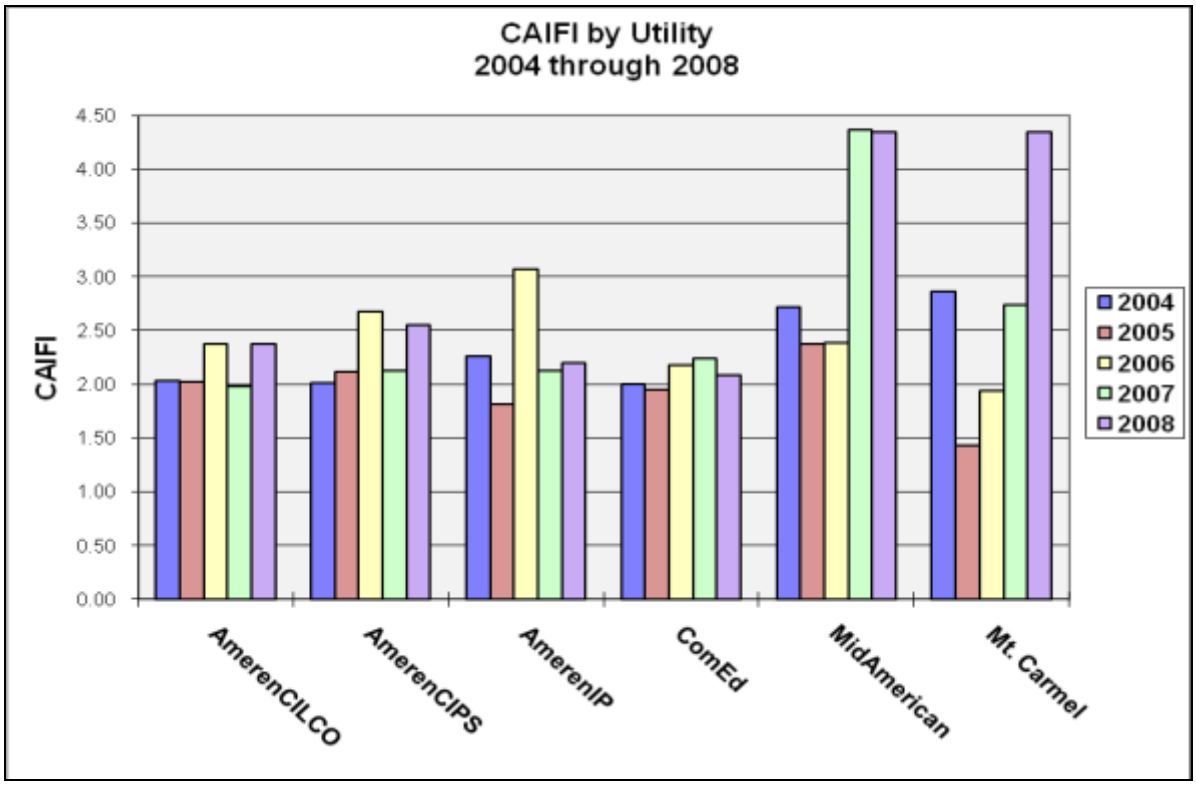
[1] AmerenCIPS took over AmerenUE's Illinois service territory in 2005 service, so that AmerenUE did not report reliability statistics for 2005 or later.

[2] Alliant Energy sold the Illinois electric operations of, Interstate Power and Light Company, and South Beloit Water, Gas, and Electric Company to cooperatives, so that neither utility submitted reliability statistics for 2006 or later.

- In 2004, AmerenCILCO's CAIDI was about 60% higher (worse) than the average of the CAIDI values reported by the eight other reporting utilities (AmerenCILCO's 2004 CAIDI=247).
- In 2005, AmerenCILCO's CAIDI decreased (improved) approximately 33%, but many other utilities also reported CAIDI improvements, so that AmerenCILCO's CAIDI was still about 36% higher (worse) than the average of the CAIDI values reported by the seven other reporting utilities (AmerenCILCO's 2005 CAIDI=165).
- In 2006, AmerenCILCO's CAIDI increased (worsened) by nearly 200%, but all of the other reporting utilities also reported CAIDI increases, so that AmerenCILCO's CAIDI was still about 11% lower (better) than the average of the CAIDI values reported by the five other reporting utilities (AmerenCILCO's 2006 CAIDI=489).
- In 2007, AmerenCILCO's CAIDI decreased (improved) by approximately 69%, and AmerenCILCO's CAIDI was about 27% lower (better) than the average of the CAIDI values reported by the five other reporting utilities (AmerenCILCO's 2007 CAIDI=151).
- In 2008, AmerenCILCO's CAIDI increased (worsened) by approximately 100%, so that AmerenCILCO's CAIDI was about 2% higher than the average of the CAIDI values reported by the five other reporting utilities (AmerenCILCO's 2008 CAIDI=303).

➢ *CAIFI:* Figure 9 shows system CAIFI values for years 2002-2005 for reporting electric utilities:

Figure 9: CAIFI by Utility (2004-2008)



- In 2004, AmerenCILCO's CAIFI was about 2% lower (better) than the average of the CAIFI values reported by the eight other reporting utilities (AmerenCILCO's 2004 CAIFI=2.03).
- In 2005, AmerenCILCO's CAIFI changed very little from its 2004 value, while some other utilities reported significant improvements. As a result, AmerenCILCO's CAIFI was about 14% higher (worse) than the average of the CAIFI values reported by the seven other reporting utilities (AmerenCILCO's 2005 CAIFI=2.02).
- In 2006, AmerenCILCO's CAIFI increased (worsened) by about 17%, but AmerenCILCO's CAIFI was 3% lower (better) than the average of the CAIFI values reported by the five other reporting utilities (AmerenCILCO's 2006 CAIFI=2.37).
- In 2007, AmerenCILCO's CAIFI decreased (improved) by over 16%, and AmerenCILCO's CAIFI was 27% lower (better) than the average of the CAIFI values reported by the five other reporting utilities (AmerenCILCO's 2007 CAIFI=1.98).
- In 2008, AmerenCILCO's CAIFI increased (worsened) by nearly 20%, and AmerenCILCO's CAIFI was nearly 24% lower (better) than the average of the CAIFI values reported by the five other reporting utilities (AmerenCILCO's 2008 CAIFI=2.37).

AmerenCILCO's reliability indices for 2008 compared to 2007 indicate that, on average, AmerenCILCO's customers experienced more and significantly longer interruptions during 2008.

A comparison between the changes in AmerenCILCO's reliability indices from 2007 to 2008 to changes in the average of the indices from all reporting utilities further illustrates AmerenCILCO's relative reliability performance:

- AmerenCILCO's SAIFI increased by nearly 51% from 2007 to 2008; the average of the SAIFI values from all reporting utilities increased by about 23%.
- AmerenCILCO's CAIDI increased by over 100% from 2007 to 2008; the average of the CAIDI values from all reporting utilities increased by about 56%.
- AmerenCILCO's CAIFI increased by about 20% from 2007 to 2008; the average of the CAIFI values from all reporting utilities increased by about 15%.

Interruptions to Individual Customers

AmerenCILCO's reliability report listed the number of customers that experienced various quantities of interruptions during the year. AmerenCILCO reported a decrease in the number of customers experiencing zero interruptions, and a general increase in the number of customers experiencing repeat interruptions: not a desirable trend.

- *Zero interruptions*: During 2008, 22% of AmerenCILCO's customers experienced zero interruptions. During 2007, more than 37% experienced zero interruptions. During 2006 and 2005 this value was about 30% and 32%, respectively.

- *3 or Fewer Interruptions*: During 2008, 82% of AmerenCILCO's customers experienced 3 or fewer interruptions. During 2007, nearly 91% experienced 3 or fewer. During 2006 and 2005 this value was about 83% and 90%, respectively.
- *More than six Interruptions*: During 2008, 2.2% of AmerenCILCO's customer experienced more than 6 interruptions. During 2007, 1.3% experienced more than 6. During 2006 and 2005 this value was 3.0% and 0.4%, respectively.

Figure 10 and 11 illustrate the number of AmerenCILCO's individual customers that experienced the fewest and the most interruptions during the past several years. Figure 10 illustrates that between 80% and 90% of AmerenCILCO's customers have experienced 3 or fewer interruptions during the past few years, and that in 2008, fewer customers experienced zero interruptions than in any year since 2003.

Figure 10: AmerenCILCO's Customers with 3 or Fewer Interruptions Annually (2003-2008)

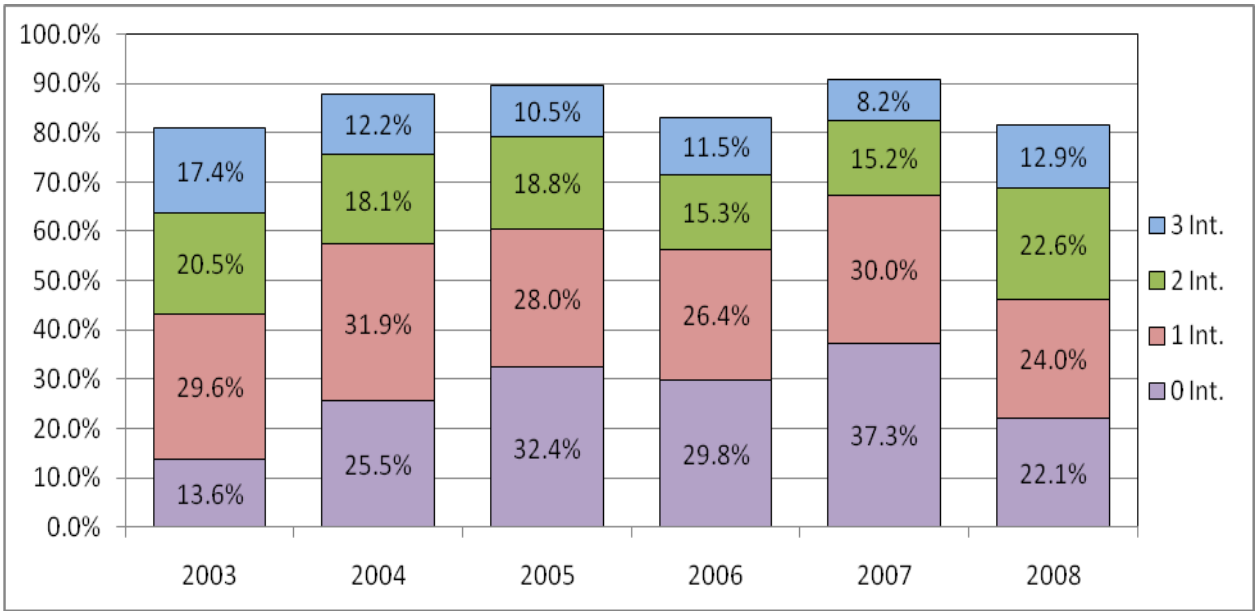
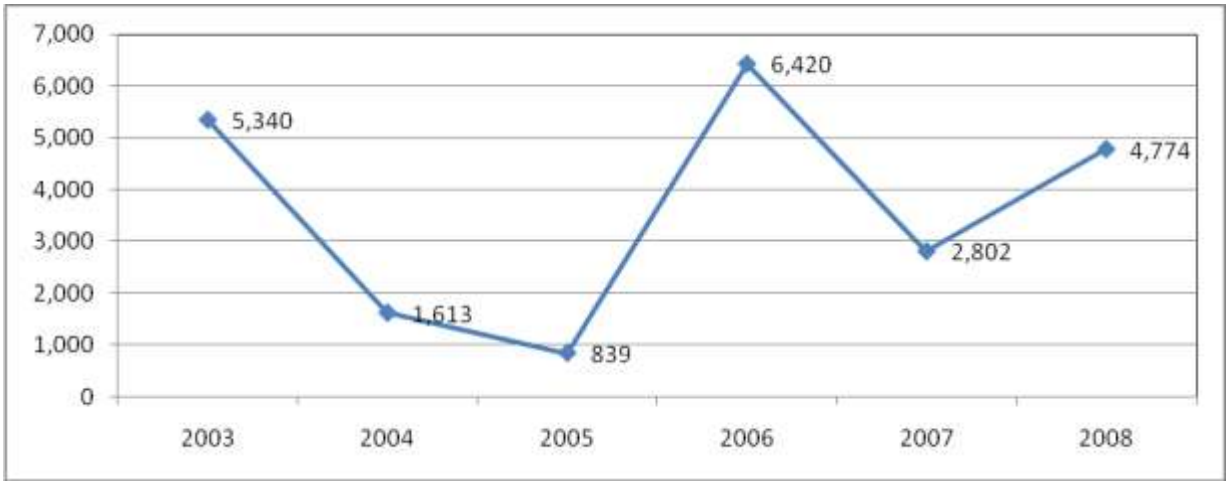


Figure 11 shows that the number of AmerenCILCO's customers that experienced more than 6 interruptions annually during the years 2003-2008 has varied between less than 1000 and more than 6000. Generally the number of AmerenCILCO's customers experiencing more than 6 interruptions has increased since 2005. AmerenCILCO reported a 665% increase in the number of customers experiencing more than 6 interruptions from 2005 to 2006, followed by a 56% reduction from 2006 to 2007, and a 70% increase from 2007 to 2008.

Figure 11: Number of AmerenCILCO Customers Experiencing More than 6 Interruptions Annually



Approximately 17% of AmerenCILCO's customers who experienced more than 6 interruptions during 2008 actually experienced 10 or more interruptions (791 customers). Utilities can minimize interruptions and reliability complaints from customers by keeping track of interruptions that occur beyond specific protective devices on their distribution systems, and by taking prompt corrective action throughout the year when customer(s) beyond a particular protective device experience multiple interruptions. Prompt corrective actions would reduce the number of customers that experience multiple interruptions. While fewer of AmerenCILCO's customers experienced more than 6 interruptions during 2008 than in 2006, six of AmerenCILCO's customers experienced 7 interruptions during 2006, 7 during 2007, and then 14 interruptions during 2008 –more than one a month. AmerenCILCO should inspect circuits and line sections where interruptions occur, and make follow-up repairs promptly, including repairs that might prevent unrelated interruptions from occurring. After so many interruptions during 2006 and 2007, Staff believes AmerenCILCO should have taken steps to insure that these six customers experienced fewer interruptions during 2008: not twice as many as in 2007. Reliable electric service is a result of pro-active maintenance, not a result of reacting to interruptions after they occur. AmerenCILCO should strive to provide more prompt maintenance with a goal that none of its customers experience more than six interruptions in a calendar year.

Customer Interruption Cause Categories

Interruption events that occurred on AmerenCILCO's distribution system for the period 2005-2008 are listed by cause in Table 4. The table illustrates that there were far more interruption events affecting AmerenCILCO's distribution system in 2008 than in any of the previous 3 years: for example, 42% more than in 2007.

Table 4: AmerenCILCO's 2005-2008 Interruption Events by Cause Category

	Interruption Events							
Cause Category	**2008**		**2007**		**2006**		**2005**	
OVERHEAD EQ	2,531	30.50%	1,705	29.16%	1,179	17.54%	1,004	19.74%
TREE RELATED	1939	23.37%	395	6.75%	260	3.87%	231	4.54%
UNDERGROUND EQ	826	9.95%	877	15.00%	756	11.25%	740	14.55%
INTENTIONAL	804	9.69%	773	13.22%	640	9.52%	688	13.53%
OTHER	614	7.40%	399	6.82%	105	1.56%	112	2.20%
ANIMAL RELATED	544	6.56%	591	10.11%	668	9.94%	478	9.40%
UNKNOWN	495	5.97%	442	7.56%	337	5.01%	242	4.76%
PUBLIC	210	2.53%	255	4.36%	302	4.49%	306	6.02%
JURISDICTIONAL	105	1.27%	89	1.52%	135	2.01%	102	2.01%
CUSTOMER	81	0.98%	28	0.48%	86	1.28%	78	1.53%
WEATHER	78	0.94%	247	4.22%	2162	32.16%	1064	20.92%
SUBSTATION EQ	59	0.71%	37	0.63%	30	0.45%	17	0.33%
TRANSMN OUTAGE	7	0.08%	10	0.17%	37	0.55%	13	0.26%
LOSS OF SUPPLY	5	0.06%	0	0.00%	25	0.37%	10	0.20%
Total	**8,298**	**100%**	**5,848**	**100%**	**6,722**	**100%**	**5,085**	**100%**

Within its annual report, AmerenCILCO explained that in 2008 it made an effort to ensure that the cause code "weather" was used only if weather data confirmed that National Electrical Safety Code ("NESC") design criteria was exceeded (for example, ice and/or wind loading). As a result, AmerenCILCO attributed less than 1% of its interruption events to weather during 2008, whereas in 2006 AmerenCILCO attributed more than 32% of interruption events to weather. Staff finds AmerenCILCO's efforts to more accurately report the actual cause of its interruptions events to be commendable.

During both 2007 and 2008, AmerenCILCO attributed about 30% of its interruption events to overhead equipment failures. AmerenCILCO also reported 1939 tree related interruptions in 2008, or about 23% of its total interruptions: nearly 5 times the number of tree related interruptions AmerenCILCO reported during 2007; more than 7 times the number reported during 2006; and more than 8 times the number reported during 2005. During Staff's circuit inspections that occurred in the summer of 2009, Staff observed many locations where AmerenCILCO's overhead facilities were in need of repair, as well as many locations where trees needed to be trimmed because they were contacting or coming close to AmerenCILCO's primary conductor. Staff is not surprised, therefore, that AmerenCILCO attributed nearly 54% of its 2008 distribution interruption events to overhead equipment failures and trees.

Since 2007, AmerenCILCO, along with AmerenCIPS and AmerenIP, has been utilizing a contractor to perform inspections on its distribution circuits. Based upon information contained within AmerenCILCO's reliability report about its worst performing circuits, in some instances AmerenCILCO performs remedial work on distribution facilities more than a year after a problem location is identified by its inspector. Depending upon the

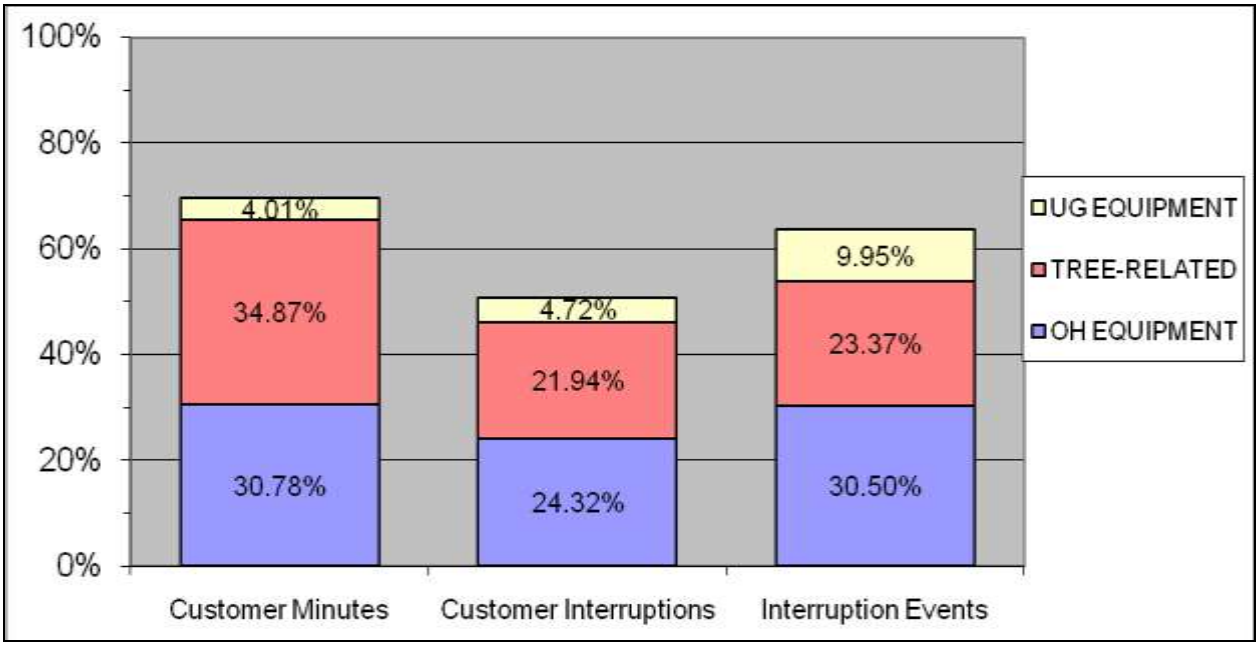
inspector's findings, Staff believes this amount of time could be far too long, since equipment that is identified by inspectors as needing repair could fail and cause an interruption or unsafe condition prior to the time AmerenCILCO makes the recommended repairs.

AmerenCILCO also indicated that nearly 10% of its interruption events during 2008 were caused by underground equipment problems. As Table 4 indicates, underground equipment failures have been the cause of even higher percentages of interruption events in prior years. AmerenCILCO has underground primary installed throughout its system, even in rural areas, where it is quite common that AmerenCILCO has tapped the overhead lines at the road and installed underground primary onto the customer's property to supply the home or farm. AmerenCILCO's underground equipment failures increase its system CAIDI each year, since underground faults can be difficult to locate and isolate and typically take a long time to repair. AmerenCILCO should continue its practice of replacing underground cable sections that have experienced multiple failures, so that the individual customers that the cable supplies do not have to continue to endure long-duration interruptions. In addition, once a particular cable type/vintage is identified as a bad performer due to frequent failures, AmerenCILCO should consider pro-active replacement of that cable wherever it is installed in its system in an attempt to reduce the number of long unplanned interruptions.

The number of individual interruptions events identified in Table 4 is not, by itself, indicative of how AmerenCILCO's customers were affected by these interruptions. For example, a tree-caused interruption might be isolated by a tap fuse so that the interruption affects only 10 customers for an hour. Elsewhere, an overhead equipment failure on the mainline might affect 1000 customers for five hours. Each of these events would be counted in Table 4 as one interruption, however, the tree-caused interruption would result in 10 customer-interruptions (10 customers X 1 interruption) and 600 customer-minutes (10 customers interrupted X 60 minutes of duration), while the overhead equipment failure described above would result in 1000 customer-interruptions (1000 customers X 1 interruption) and 300,000 customer-minutes (1000 customers interrupted X 300 minutes of duration).

Figure 12 illustrates the contribution of overhead equipment failures, trees, and underground equipment failures to the number of interruption events, customer interruptions, and customer minutes of interruption (duration) on AmerenCILCO's system during 2008. Figure 12 indicates to Staff that, looking forward, AmerenCILCO's ability to provide reliable service to customers will depend upon the success it has at reducing the effects of overhead equipment failures and tree-related interruptions.

Figure 12: Contribution of Various Causes to AmerenCILCO's Interruption Statistics during 2008



9. Plan to Maintain or Improve Reliability

AmerenCILCO listed several activities in its reliability plan for 2009 that should have a positive impact on the reliability of its system. These activities include: tap fusing, worst performing circuit improvements, substation maintenance, capacity studies, circuit inspections, vegetation management, installation of animal protection on distribution transformers and at substations, installation of lightning protection, and installation of new automated switches.

Figure 13 illustrates AmerenCILCO's historical and planned distribution O&M and distribution capital expenditures. AmerenCILCO has been gradually increasing its distribution capital expenditures since 2005, and anticipates distribution capital expenditures in 2009 to again increase (by about 19%).

AmerenCILCO's distribution O&M expenditures during 2008 were more than 30% higher than in 2007. AmerenCILCO's plan is to generally maintain this higher level of O&M expenditures, at least during the next few years.

Figure 13: AmerenCILCO's Distribution Expenditures (2004-2011)

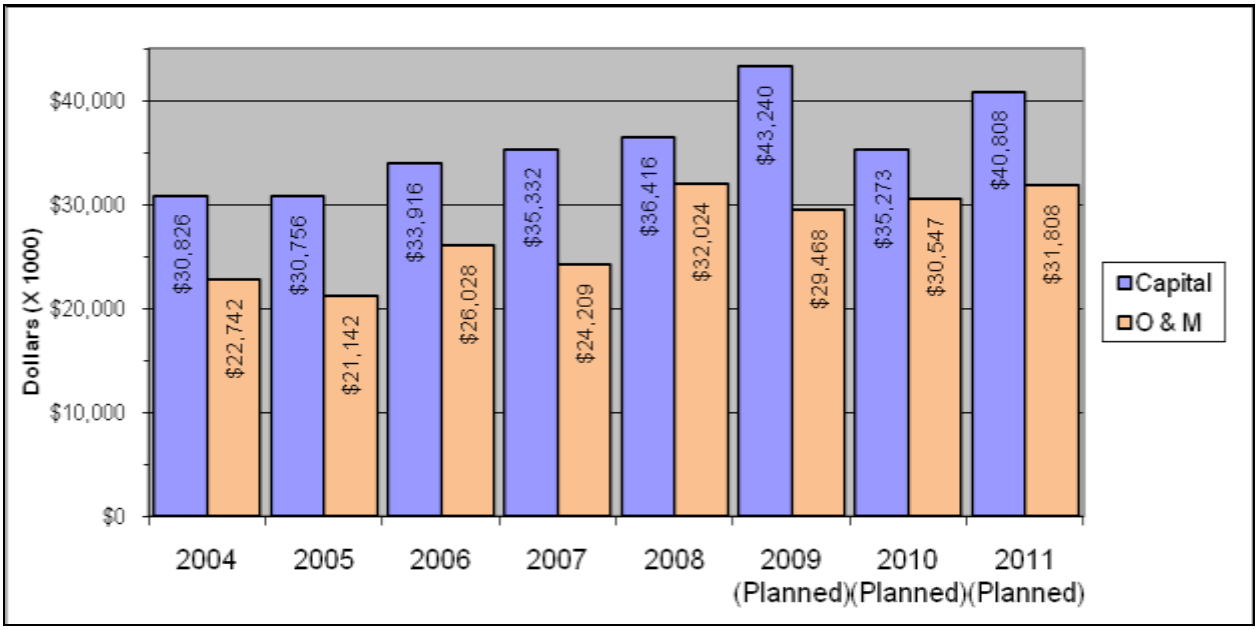
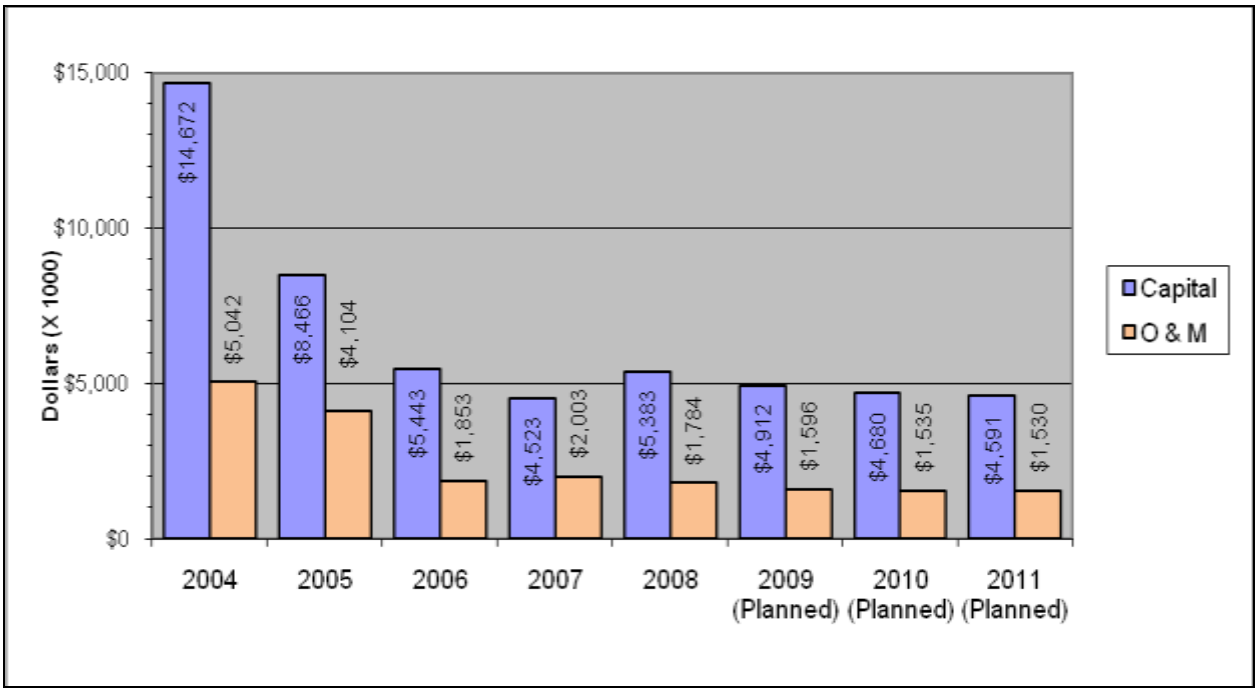


Figure 14 illustrates that AmerenCILCO's transmission capital and O&M spending was fairly level during the period 2006-2008, and that AmerenCILCO plans future expenditure amounts to also be fairly consistent with this level. A utility's capital spending for transmission can vary greatly from year to year as large transmission construction projects are scheduled and completed.

Figure 14: AmerenCILCO's Transmission Expenditures (2004-2011)



10. Potential Reliability Problems and Risks

As a result of Staff's review of AmerenCILCO's reliability report, Staff's review of AmerenCILCO's responses to Staff's data requests, and Staff's inspection of AmerenCILCO's distribution circuits, Staff has identified the following concerns regarding AmerenCILCO's reliability performance:

- Staff is concerned that AmerenCILCO does not appear to consistently and adequately maintain its distribution facilities. When inspecting AmerenCILCO's distribution circuits during the summer of 2009, Staff observed locations on some circuits with deteriorated arms, braces, pole tops, and loose hardware that posed a threat to reliable service. It appears to Staff that AmerenCILCO does not prioritize relatively simple, inexpensive repairs to damaged or deteriorated facilities on some of its distribution circuits.

  AmerenCILCO indicated that, during 2008, it more accurately reporting interruption causes by attributing to weather only those interruptions that occurred when NESC design criteria for existing conditions during the time of the interruption were exceeded. As a result of this reporting methodology, the number of AmerenCILCO's interruptions attributed to trees and overhead equipment failures increased dramatically during 2008, while weather-related interruptions decreased (refer to Table 4). AmerenCILCO should take practical steps to bolster its system so that its overhead distribution facilities can withstand the moderate storms and/or icing that frequently occur in the Midwest. For example, AmerenCILCO should promptly make repairs to damaged or deteriorated facilities that it finds during inspections, such as those facilities included in the photographs in this report, which Staff observed during its circuit inspections.

- Staff is concerned that AmerenCILCO does not prioritize inspection and repair of circuits that supply customers who experience interruptions that are in excess of the Commission's reliability targets. For many of these customers, AmerenCILCO's only remedial action is to conduct its normally scheduled circuit-wide tree trimming. In other words, in many cases AmerenCILCO has taken no additional steps to reduce the number and/or duration of interruptions to individual customers who have already experienced interruptions exceeding the Commissions targets.

- Staff is concerned that AmerenCILCO's system CAIDI continues to be high when compared to other reporting utilities. For 2008, only MidAmerican reported a higher CAIDI than AmerenCILCO's 303 minutes. AmerenCILCO's CAIDI indicates that, on average, customers who experienced interruptions during 2008 had their service interrupted for more than 5 hours. The two interruption cause categories that resulted in the most customer minutes of interruption were overhead equipment failures and trees (refer to Figure 12)

- While the percentage of AmerenCILCO's total interruptions that are due to underground equipment failure is lower than in prior years, Staff is concerned that this percentage still remains high. For example, AmerenCILCO attributed 826 interruptions to underground equipment failures in 2008. Since about 25% of its distribution lines are underground, it seems likely that addressing underground equipment failures will continue to be an important issue for AmerenCILCO.

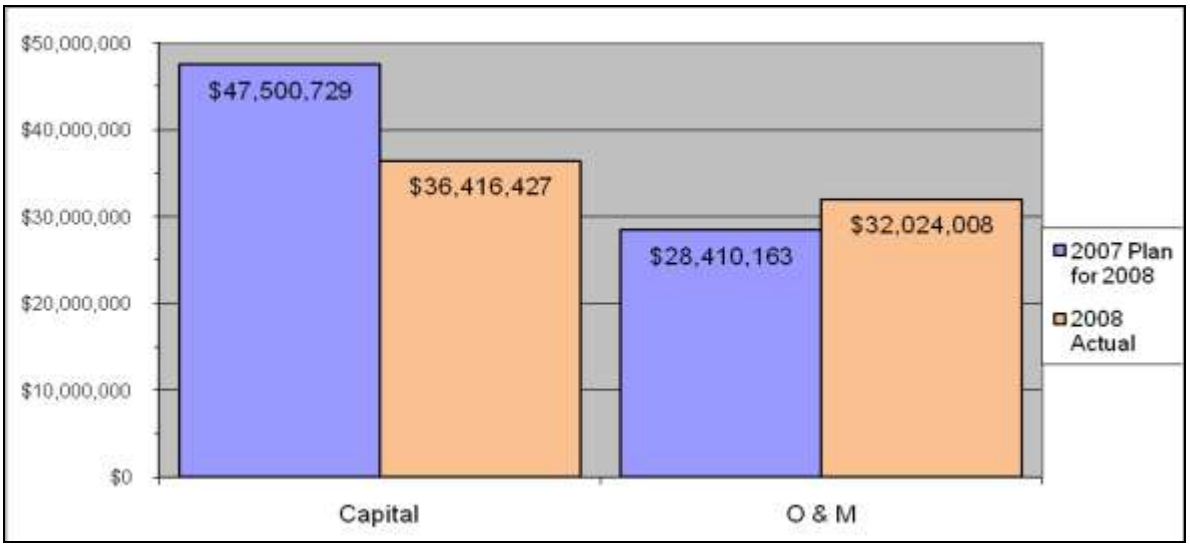
AmerenCILCO should monitor trends associated with cable failures so that it can take proactive steps to minimize them.

- Staff is concerned that AmerenCILCO does not perform vegetation management so that its distribution lines remain free of vegetation contacts. At far too many locations, Staff observed vegetation contacting the primary conductor on the circuits that Staff inspected during the summer of 2009. In some cases AmerenCILCO had recently performed a tree trimming. For example, in 2008, AmerenCILCO had completed trimming Circuit C0-001, and completed a mid-cycle patrol of Circuit C70-001, yet Staff observed tree contacts on both circuits in 2009.

11. Implementation of the Plan Listed in the Previous Reliability Report

Figure 15 compares AmerenCILCO's actual expenditures for distribution capital and O&M during 2008 with the plan listed in its 2007 reliability report. AmerenCILCO's capital expenditures were about 23% less than the amount included in its 2007 annual report, and O&M expenditures were approximately 13% higher. Combining capital and O&M distribution expenditures, AmerenCILCO's 2008 actual expenditures were within 10% of the planned amount, based upon its 2007 annual report.

Figure 15: AmerenCILCO's Actual 2008 Distribution Expenditures and Prior Year Plan



AmerenCILCO's 2008 reliability report also provided updates about progress made on specific projects that were included in its 2007 reliability plan. For instance, AmerenCILCO completed its inspection of 2007 worst performing circuit A91002, and in March of 2009 completed a project to repair or replace grounds, risers, guy guards, poles, braces, and guys. As another example, in its 2007 report, AmerenCILCO stated it had scheduled a tap fusing project for 2007 worst performing Circuit B38002. In its 2008 report, AmerenCILCO stated that in 2008, it installed fuses on two taps on this circuit. Generally, AmerenCILCO did a good job in its report for 2008 providing follow-up information about the plans identified in its 2007 report. AmerenCILCO indicated that it completed the majority of the work identified as planned work in its 2007 report.

AmerenCILCO's transmission capital expenditures were about 24% less than the amount included in its 2007 annual report, and transmission O&M expenditures were

approximately 20% less. Combining capital and O&M transmission expenditures, AmerenCILCO's 2008 actual expenditures were about 23% lower than planned, based upon its 2007 annual report.

12. Summary of Recommendations

- AmerenCILCO should make itself aware of the condition of its distribution facilities, and take action to remedy problems more promptly after it identifies threats to reliable service.
- AmerenCILCO should take steps to improve service to customers who experience interruptions in excess of reliability targets. AmerenCILCO's remedial action does not always need to be a large project that takes years to build. It might be as simple as removing one tree, tightening slack conductor, tightening hardware, etc. Unless AmerenCILCO inspects its facilities that supply the actual problem area, it cannot know whether or not a simple solution exists to reduce the risk of future interruptions to a pocket of customers that might be experiencing interruptions.
- AmerenCILCO should continue its efforts to reduce its CAIDI. AmerenCILCO's CAIDI Initiatives, described within AmerenCILCO's annual report, are good examples of AmerenCILCO's efforts to reduce CAIDI. AmerenCILCO's CAIDI initiatives include: new subtransmission planning criteria that considers outage duration; installation of automated switches; verification of customer records for outage reporting; and development of a line switch inspection program.
- AmerenCILCO should strive to reduce the number of underground equipment related interruptions by continuing to replace cable sections that have experienced multiple failures. AmerenCILCO might also determine whether it has in its system specific cable types and/or vintages that are prone to failure, and initiate cable replacement of those cables system-wide, rather than waiting to replace the cable only after three interruptions occur.
- AmerenCILCO should continue its efforts to keep its substations clear of debris, including bird nesting materials. During its 2009 inspections, Staff found AmerenCILCO's substations to be clean and free of debris. Staff encourages AmerenCILCO to continue its apparent effective efforts to keep animals and birds off of its equipment, thus minimizing the likelihood of unplanned distribution substation outages.
- AmerenCILCO should insist that its tree trimming personnel clear trees away from its power lines in such a manner that the trees will not contact the power lines before getting trimmed again during the next tree-trimming cycle. AmerenCILCO should insist that 100% of the vegetation growing adjacent to its distribution circuits is trimmed adequately. In addition, if AmerenCILCO conducts mid-cycle patrols, which Staff believes is a good idea, it should act promptly upon the findings of those patrols by trimming the discovered problem trees. If AmerenCILCO finds through its inspections and mid-cycle patrols that a four-year cycle is too long to prevent tree contacts, then it should shorten its tree trimming cycle.

Rockrohr, Greg

From: Rockrohr, Greg
Sent: Tuesday, August 25, 2009 4:19 PM
To: Bev Hall (BHall@ameren.com)
Cc: @ Voiles, Jackie; Stoller, Harry; Buxton, Roy
Subject: Staff's 2009 inspection summary for AmerenCILCO's distribution circuits
Attachments: 2008_CILCO Summary of Field Inspection.xlsm

Attached, for your information, are summaries of my notes relating to my recent inspections of several AmerenCILCO distribution circuits.

I hope this information is useful to your company. The attached summaries are not represented as capturing all of the potential reliability problems that may exist on the circuits that I inspected. In many cases, there were portions of the circuits that I did not see. My inspections are not intended to take the place of the thorough, detailed inspections that your company should periodically perform.

Requested action:

I noted apparent National Electrical Safety Code ("NESC") violations at several locations (shown in bold font in the attached worksheets). For locations where I noted inadequate clearance between the conductor and ground, please provide the minimum measured height of the conductors at the noted locations. If, after measurement, AmerenCILCO discovers that the conductor clearance is less than that allowed by NESC Table 232-1, please also provide AmerenCILCO's plan and schedule to modify its facilities at the noted location(s) to obtain the required ground clearances. Please also provide AmerenCILCO's plan and schedule to modify its facilities at the railroad crossings where I noted single cross arms (in violation of NESC Rule 261.D.4.c).

I would appreciate AmerenCILCO's response by September 25, 2009.

Please contact me if you have any questions about the information contained in the attached summaries, or about my requests regarding NESC violations.

Thank you,

Greg Rockrohr
Illinois Commerce Commission
217-524-0695

Utility:	AmerenCILCO	Date:	6/10/09
Circuit:	D87-001	Inspector:	Rockrohr (ICC)/Glad (CILCO)
Gen. Notes:	Spring Bay -rural area N/E. Peoria along Illinois River. Tree trimming last completed 12/06. Some sections not visible from roadway-like parts of Hwy Lots of UG primary even in rural areas. Several tap fuses recently added, but could use more. Guy markers missing at several locations. 2008 NTWPC: trees(25), OH(17), unknown(5), UG(5), animal(4). Clean substation with animal fence installed around distribution equipment.		

Map No.	Item Description	Photo(s)	Location
1	Tree growing close to primary		Buckey Ln. -just W/Millpoint Rd.
2	Trees contacting primary		South end of S. Riverview Dr. near trf. (103678)
6	Ground wire coming loose from pole		Millpoint Rd.-1st W/Spring Bay Rd.
6	Trees growing close to primary		Valley View -S/Millpoint: near trf. (107136)
7	Detatched cross arm brace		E. Hoffman Rd -W/Valleyview Dr.
7	Tree contacting primary		N. Riverview Dr. - 3rd span W/Spring Bay Rd.
7	Trees growing close to primary		N. Riverview Dr. -Btw Tindall Ct & Meadowlark Ct
8	Deteriorated cross arm	19 & 20	Tindall Ct.-1st N/N. Riverview Dr.
8	Deteriorated pole top -pin leaning		Tindall Ct.-3rd N/N. Riverview Dr.
9	**NESC: Neutral very low over driveway**		Eichorn Rd. -W/Spring Bay Rd. (address #98) -across from Bay Pt.
10	Tree contacting primary		N. Oregon St. -Btw W. Illinois & W. Tazwell
10	Tree contacting primary		N. Oswego St. -S/W. Caroline
10	Trees growing close to primary		W. Illinois St. -Btw N. Oswego & Chicago
10	Pole holding transformer leaning	17	N. Oswego St. -Btw W. La Salle & W. Galena : trf (108228)
14	Vines grown to primary level of pole		1st N/Miletree Rd. -Btw Garden & Hillside
15	Deteriorated pole top		High St. -3rd N/Cemetery Rd.
15	Tree contacting primary		Hardcastle Ln. -6th span E/High St.
15	Deteriorated pole top -pin leaning	18	Hardcastle Ln. -7th pole E/High St. (1 span west of "T" -intersection)
15	Deteriorated pole top -pin leaning		W. Zimmerman Rd. -E/High St. (#2375041)
16	Pole holding transformer leaning		# 1685 Hwy 26
17	Vines grown to primary level of pole		Woodland Knolls Rd -W/Oak Park (across from #1785)
21	Deteriorated pole top		End of Hardcastle Ln.
22	Trees contacting primary		W. Zimmerman Rd. -NE/Sycamore Ct.
22	**NESC: Neutral conductor very low (appeared to be +/- 8')**		W. Zimmerman Rd. -NW/Burdette St.(adjacent to pole # 2378158)
24	Vines grown to primary level of pole	21	Woodland Knolls Rd -S/Alconbury (across from #1566)
27	Vines covering transformer		Grebner Rd -E/Upper Spring Bay :across from #232 @ trf (109230)
28	Deteriorated pole top -pin leaning		W. Zimmerman -E/Upper Spring Bay (pole # 2378144)
30	Vines grown to primary level of pole	14 & 15	Vesta Dr. -1st S/Hwy 26
30	Detached cross arm brace	16	Kathleen Pl -N/Vesta (pole # 2897480)
34	Ground wire coming loose from riser pole		Wildridge Rd. -E/Greenbriar
36	Pole leaning		Hwy 26 -+/- 4th W/Lourdes
39	Nuts missing or loose on pole top pins (four adjacent poles)		Lourdes Rd. -Btw Claytons & Riverview (poles #2733204-2733207)
39	Tree growing close to primary		Lourdes Rd & lane opposite Riverview Bluff
39	Pine tree enveloping primary	5 & 6	W/Lourdes Rd -on lane opposite Riverview Bluff (near # 354 & 358)
39	Tree growing close to primary		Riverview Bluff -E/Lourdes (near corner pole)
39	**NESC: Neutral & Primary appear to have inadequate clearance**	4	Riverview Bluff -E/Lourdes near # 380 (pole # 2897468)
39	2 detatched cross arm braces	11 to 13	Hwy 26: on 1st tap to south E/Lourdes -1st pole on tap
40	Deteriorated pole top		North Creek Rd. -N/hwy 26 (pole # 2720226)
41	**NESC: Neutral appears to have inadequate ground clearance**		North Creek Rd. -N/hwy 26 (btw poles # 2720223 & 2720222)
41	Trees contacting primary	7 & 8	At 1901 North Creek Rd.
41	Ground wire coming loose from pole		1st pole W/1901 North Creek
41	**NESC: Neutral & Primary appear to have inadequate clearance**		Tap to trf (506033) @ 1927 N. Creek Rd.
*44	**NESC: Primary appears to have inadequate clearance -2**		Call Rd. -E/Lourdes (btw P# 2392966 & 2392964)
44	Blown lightning arrester	2 & 3	Call Rd. -E/Lourdes (btw P# 2392968)
45	Vines grown to primary level of pole	9 & 10	Hwy 26 -3rd N/North Fork
48	Unguyed pole leaning over into angle		Black Partridge Rd -3rd S/North Fork
48	Vines grown to primary level of pole		Hwy 26 -5th N/North Fork
48	Deteriorated pole top		# 1854 Hwy 26
*	On September 25, 2009, AmerenCILCO reported to Staff that it found no NESC violation at this location		

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	AmerenCILCO	**Date:**	6/11/09
Circuit:	C00-001	**Inspector:**	Rockrohr (ICC)/Glad (CILCO)
Gen. Notes:	Sparland -rural area N/Peoria west of Illinois River. Tree trimming last completed 1/08. Utility's last inspection: 11/08. Few LA's on cct. Clean substation with animal fence. Noted many locations where down guys had no guy markers installed. Galloping conductor protection in places. 2008 NTWPC: OH(13), UG(9), animal(8), other(6), unknown(4), trees(1). Some poles recently replaced throughout circuit. Lots of loose hardware.		

Map No.	*Item Description*	*Photo(s)*	*Location*
1	Neutral pin fallen through cross arm		500 E -S/550 N: 1st pole N/trf(550585)
1	Shell rot pole		500 E -S/550 N: 3rd pole S/ tap to trf(550610)
2	Vines grown to primary level of pole		500 E -1st S/550 N
2	Several poles framed using only one cross arm brace		550 N -W/500 E
2	Trees contacting primary		550 N -W/500 E (near #1467)
2	Deteriorated pole top		500 E +/- 9 poles N/550 N
3	Grip coming off on guy at strain insulator	20	500 E -1st S/650 N
4	Several adjacent poles shell rotted		550 E -N from 450 N
4	Shell rot pole		550 E -16th N/450 N
5	Bolt coming out of pole top pin		550 E at 550 N
7	Detatched down guy		450 N (pole #2646039)
7	Split pole top		450 N (1 pole E/pole #2646039)
9	Deteriorated cross arm		650 N -E/550E (4th pole W/tap to trf (506282))
*9	**NESC: Pri & Neutral appear to be low**		650 N -E/550E (tap to trf (506282)-btw pole # 2619185 & 2619186)
12	Deteriorated pole	21	650 E -4th S/Steuben Rd. (2nd N/riser to trf (505154))
13	Trees contacting primary	13	450 N -W/650 E at tap to trf (550025)
14	Vines grown to primary level of pole	15	650 E -3rd S/550 N
14	Single cross arm brace		550 N -3rd E/650 E
14	Vines grown to primary level of pole	14	550 N -2nd E/650 E (at #654)
19	**NESC: Down guy appears to be low over driveway**	3	1150 N -W/700E (pole # 2641260)
21	Single cross arm brace & pin fallen through arm	12	550 N -W/N. Yankee (pole #2619029)
27	Map does not represent field condition -riser at wrong location		1050 N -E/700E
30	Bolt coming out of pole top pin	10	N. Yankee Ln -N/E Shepard (pole #2619459)
33	Vines grown to primary level of pole	11	550 N -W/N. Yankee (1 pole W/pole # 2619031)
33	Single cross arm brace		550 N -W/N. Yankee (pole # 2619031)
34	Deteriorated pole	19	650 N -E/N. Yankee (1 pole west of pole #2619155)
34	Deteriorated arm & animal guard laying on top of trf btw bushings	16 to 18	650 N -E/N. Yankee (pole #2619155)
35	Split pole top & leaning pin		700 N -1st E/N. Yankee
38	Split pole top		1150 N -5th W/700E
38	Deteriorated pole top & loose pole top pin		1150 N -11th W/700E
42	Deteriorated pole top & loose pole top pin	5 & 6	800 E -N/800 N (at tap to #860)
43	Deteriorated pole top & loose pole top pin (adjacent poles)		800 E -2nd & 3rd S/950 N
43	Deteriorated pole top		950 N -1st E/ 800 E
45	Deteriorated pole top		1150 N -3rd E/800 E
45	Deteriorated pole top		1150 N -6th E/800 E
48	Pole top pin bolts coming out with large woodpecker hole between	9	850 E -S/Blackfoot (1 N/ trf (506799))
49	Several strands broken on neutral conductor		850 E -S/Blackfoot (2 S/ tap to trf (507339))
50	Trees contacting primary		850 E -S/550N: near trf (550518)
58	Deteriorated pole top		600 N -1 span E/875 E
59	Pole top split and nuts loose on pole top pin		900 E -3rd N/800 N
61	Trees contacting primary	4	950 N -1st W/ 900 E
61	Pole tops appeared hollowed out by woodpeckers (4 adjacent		900 E -S/950 N (S/ tap to trf (507226))
66	Pole had 2 woodpecker holes -one either side of neutral	7 & 8	Willow Rd. -E/875 E at tap to trf (550519) : (pole # 2619092)
66	Animal guard coming loose from transformer bushing		Willow Rd. -E/875 E at trf (550517)
69	Splinterred pole top		Hwy 29 -N/Hopewell Dr. (4th pole S/tap to trf (506262)
70	Trees contacting primary		Ada -N/Hillcrest
71	Pole holding transformer leaning		At #1036 1150 N (pole # 2646027)
*	On September 25, 2009, AmerenCILCO reported to Staff that it found no NESC violation at this location		

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	AmerenCILCO	**Date:**	8/19/2009 & 8/20/2009
Circuit:	C70-001	**Inspector:**	Rockrohr (ICC)/Hutchinson (CILCO)
Gen. Notes:	Springfield to Salisbury - Tree trimming last completed 7/06: Midcycle insp '08. Lots of tree contacts noted. Covers a large rural area with few LA's. Clean substation. Several poles marked in field for change-out or C-trussing. Several spans not visible would be good place for FI's. 2008 NTWPC: OH(21), UG(9), trees(7) animal(6), other(4), public(3), unknown(1). Some loose hardware and a few NESC violations noted.		

Map No.	*Item Description*	*Photo(s)*	*Location*
3	No protective device (fuse, recloser) on long tap to south		N. Wake Rd -S/Prairie Creek Rd.
4	Trees contacting primary		Hwy 125 E/Kepler Rd. at tap to trf(6602738) -including tap itself
10	Loose nut holding insulator pin		#529 N. Wake Rd.
12	Trees contacting primary		Hwy 125 -W/tap to trf(602735)
14	De-energized tap has lots of tree contacts -trim prior to energizing		Dunkel Rd. -1st tap E/Salisbury Rd.
15	Trees close to primary		Wilson E/S. Wake -btw riser(662058) & trf(606270)
16	Ground connection to neutral appears to be broken		Prairie Creek Rd. -E/Wake Rd (39º 48.894' N, 89º 52.451' W)
18	Tree growning btw phase and neutral conductors		N/Hwy 125 -W/Mine Rd. , near end of tap to trf(602735)
19	Pine trees burning on primary		#5412 Mine Rd. (also called Richland Rd.)
20	Trees contacting primary		#6064 Mine Rd. (also called Richland Rd.)
20	Trees close to primary		#5756 Mine Rd. -on tap to trf(602754)
20	Trees contacting primary		Mine Rd. S/Dunkel Rd -1 span S/#5756
28	Trees close to primary		Prairie Creek Rd. -W/Skinner: btw trf(602718) & Riser(661298)
35	Transformer bracket appears to be coming loose from pole	10	Quarter B Farm N/Bunn Rd. (pole #2586695)
35	Phase conductor appeared to be very close to tree		Quarter B Farm N/Bunn Rd. - Just east of pole #2586695
37	Unfused taps to north and south -recommend fusing		Homestead Rd @ Hwy 125
38	Pole holding distribution transformer leaning over	6 & 7	Bomke Rd E/Parks Kinner :#8785
42	Map does not reflect field condition -tap to trf(602682)		Hwy 125 -W/tap to trf(602682) is just 1 span W/tap to trf(602681)
43	Trees contacting primary		near #8295 Bomke Rd.
45	Trees contacting primary		Farmingdale Rd. -N/Prairie Creek Rd. Just north of Riser(660411)
46	Pole top appears damaged -arm and pole top pin appear loose	8	Farmingdale Rd. -S/Farmington Cemetary Rd -N/trf(602644)
46	Trees contacting primary		Farmington Cemetary Rd. -W/Farmingdale Rd.: #8298
46	Nut holding insulator pin coming loose		Farm. Cem. Rd. -W/Farmingdale Rd: 39º 49.774'N, 89º 48.815'W
47	Conifers contacting primary		Farmingdale Rd 2-3 spans S/Hwy 125
50	Nut holding insulator pin coming loose		Farmingdale Rd. -S/Bunker Hill Rd. (2nd ple from E/L)
51	Detereorated pole top, arm split, broken cross arm brace	11 & 12	Farmingdale Rd. -1st N/Roberts Rd.
53	Conifer close to primary		Farmingdale Rd. N/Old Jacksonville Rd. -at tap to trf(662609)
53	Detached cross-arm brace	3	Tap to W/Farmingdale Rd. N/Jacksonville Rd. (pole 2659305)
53	Detereorated pole top and cross arm		Tap to W/Farmingdale Rd. N/Jacksonville Rd. (pole 2659307)
54	Ground wire loose from pole, riser bracket too low, no riser grd.		Old Salem Rd. @ Stetson Dr. (pole #2357290)
57	Trees close to primary		Hwy 125 btw Smith Rd & Hwy 97
57	Both nuts holding insulator coming loose		Hwy 125 -1 span E/Smith
59	Nut appears to be missing from field insulator pin		Smith Rd. N/Hwy 125 (pole #2584393)
61	Ground wire appears to be detached from neutral		Salisbury: Hwy 97 E/Grigsby -at trf(601068)
61	Trees close to primary		Salisbury: Grigsby S/Hwy 97
62	Trees close to primary		Salsibury: Salisbury Cemetery Rd -just N/Spring St.
62	Trees close to primary		Salisbury: Salisbury Cemetery Rd N/Spring St. -N/trf(606308)
62	Trees contacting primary		Tap E/Salisbury Cementery Rd -S/Deer Run (address #6698)
62	Trees contacting primary		Spring St. E/Franklin -E/trf(601045)
62	Conifer close to primary		Tap to trf(601029) - S/Spring St. & E/Franklin
64	Loose nut holding insulator pin on road side		Bunker Hill Rd. -4th pole E/Farmingdale Rd.
64	Detached cross-arm brace	13	Bunker Hill Rd. -5th pole E/Farmingdale Rd.
67	**NESC: Low neutral conductor (+/- 14.5') -plus tree contact**	4	Old Salem Rd. W/Country Lake Rd. -Opposite #7470
67	Trees contacting primary		Country Lake Rd N/Old Salem Rd. -at trf(602614)
67	Trees contacting primary		Country Lake Rd N/Old Salem Rd. -S/tap to trf(606386)
67	Trees contacting primary		Country Lake Rd. just S/Riser(605764)
67	Pole riddled with woodpecker holes		Jameson Ln -1 N/trf(605364)
68	Slack guy		Country Lake Rd. W/Jameson Rd. (pole #2386582)
68	**NESC: Low neutral conductor (+/- 13')**		Jameson Ln -1st two spans S/Country Lake Rd.
69	Trees close to primary	9	Farmington Cemetary Rd. -E/Jameson Ln.
71	Lengthy unfused tap		Tolan Rd. E/Hwy 97
71	Trees close to primary		Hwy 97 S/Rock Rd. (#4888)
73	Trees contacting and close to primary -several spans		Irwin Bridge Rd E/Franklin
74	Trees contacting primary		Tap to #7125 Fulton Rd.
74	Trees contacting primary		Fulton Rd. -tap to trf(602882)
74	Trees close to primary		Fulton Rd. -tap to trf(602883)
77	Cross arm split and cross arm brace cracked		Bunker Hill Rd. -3rd pole E/trf(601560)
79	Trees close to primary		Pec Rd. W/Treece Ct -just W/trf(602622)
83	Trees close to primary		Curran Rd. -2 Spans N/#6514

Map No.	Item Description	Photo(s)	Location
84	Deteriorated pole top and leaning pole top pin	15	Fulton Rd. -1 W/Curran Rd.
87	Trees contacting primary		Bunker Hill Rd -just E/Curran Rd.
89	Trees contacting primary		Pec Rd. E/Treece Ct -@ #6070
92	Trees close to primary		#6380 Wesley Chapel Rd.
92	**NESC: Low primary & neutral conductor (N +/- 14', P +/- 16')**		Wesley Chapel Rd. S/Fulton Rd -tap to trf(602890)
94	Trees contacting primary		Corner of Workman & Wesley Chapel Rd.
95	**NESC: Single cross-arm at RR crossing -pin construction**	26	Industrial Dr. @ Brandt Consolodated (west side pole #2648501)
95	**NESC: Single cross-arm at RR crossing -pin construction**	25	Brandt Consolodated -tap to trf(605889)
95	Trees contacting primary		Curran: Illinois btw Sangamon & Wastson
96	Animal guard riding up jumper	14	Hanah Ln. S/Bunker Hill @ trf(601092)
96	Tree enveloping riser pole		Hanah Ln. just N/Hwy 72
98	Deteriorated cross arm	5	Pec Rd E/Old Covered Bridge Rd. (#800)
99	Trees contacting primary		Mansion Rd. just E/Wesley Chapel Rd.
99	Vegetation grown over pole, transformer and primary	21 & 22	Mansion Rd. E/Wesley Chapel Rd. -#576
99	Trees contacting primary		5575 Mansion Rd.
100	Nut coming loose from road phase insulator		Spaulding Orchard W/Wagon Ford Rd. -just W/riser(660853)
100	Split pole top	18	N/ Spaulding Orchard on tap W/Wagon Ford Rd. -pole #3042125
100	Bolts coming out of pole top pin	16	N/Spaulding Orchard -6 N/ fuse(661202) (pole #3042130)
100	Pole leaning over rather severely	17	N/Spaulding Orchard -7 N/ fuse(661202)
100	Slack guy		N/Spaulding Orchard -8 N/ fuse(661202)
105	Unfused cross-country tap -fusing seems advisable		Pec Rd. W/Bradfordton Rd. -tap to trf(602630)
107	Trees close to primary		Wagon Ford Rd. E/riser660859)
108	Trees close to primary		Wagon Ford Rd. -several spans both sides of trf(602901)
110	Neutral wire lying on ground	19	Mansion Rd. @ cell tower -pole #2359695
111	Trees close to primary		Wagon Ford Rd. N/trf(606260)
111	Trees close to primary		Wagon Ford Rd. N/trf(600474)
112	Trees close to primary		Fromms Ln. S/Spaulding Orchard Rd. -N/trf(606241)
112	Nut coming loose from field phase insulator pin		Spaulding Orchard Rd. -1st pole E/Fromms Ln.
112	Pine growing into primary		Spaulding Orchard Rd. -2nd span E/Fromms Ln. (#4774)
112	Trees contaction primary		Spaulding Orchard Rd. -just W/#4706
114	Lightning damage, split pole top, lower bolt missing from PT pin		Chapin Rd. N/Wagon Ford Rd. (pole #2134189)
114	Lightning damaged pole top		Chapin Rd. N/Wagon Ford Rd. -1 S/trf(602902)
115	Trees contacting primary		Cockrell Ln. N/Stonegate Dr. -S/#5189
116	Trees close to primary -several spans		Along Mt. Zion School Rd. -btw Cockrall & Fox Hall
116	Trees contacting primary		W/Cockrall & Mt. Zion School Rd -tap to #5023
119	Trees contacting primary -several spans		Spaulding Orchard Rd. W/Irongate Dr. -both sides of #3251
122	Tap to gunclub not shown de-energized on map -jumpers lifted		Mathers @ Veteran's Pkwy
122	Ground wire came loose from pole		Mathers W/ Veteran's Pkwy -2nd N/riser(661278)

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	AmerenCILCO	Date:	8/20/09
Circuit:	C70-002	Inspector:	Rockrohr (ICC)/Hutchinson (CILCO)
Gen. Notes:	Berlin -rural areas near of Old Jacksonville Rd. Tree trimming last completed 2/06. Utility's last inspection: 7/08. Lots of tree contacts noted. OH fault indicators would be useful at several locations. Not many lightning arresters installed. Animal guards on about half the distribution trfs. 2008 NTWPC: OH(12), tree (4), UG (4). Lots of ug primary taps in rural areas. More fusing on OH taps would likely help isolate outages.		

Map No.	Item Description	Photo(s)	Location
1	Tree close to primary		E/L along Old Jacksonville Rd. -tap to trf(602850)
1	Map does not reflect field condition -tap not shown		Primary and trf. supplying 17104 Old Jacksonville Rd.
2	Recommend fuse on tap that is enveloped by trees		Old Jacksonville Rd. -tap to trf(606281)
3	Tree close to primary		Both sides of address #16284 Old Jacksonville Rd.
5	Tree close to primary along unfused tap		Jimtown Rd. S/Old Jacksonville Rd.
6	Vine to primary		Huff Rd -3rd S/Frevert (pole #2269735)
6	Trees close to primary		Huff Rd -S/Frevert spans just N/riser (661805).
9	Recommend fusing long unfused tap		Frevert Rd. W/Britz Rd. -tap to north (to trf 602832)
9	Vine to primary		Frevert Rd. @ corner pole N/Britz Rd.
9	Tree grown between primary and neutral	2	#2233 Britz Rd.
9	Tree close to primary		Along lane opposite mailbox #2075 Britz Rd.
12	Tree contacting primary		Old Jacksonville Rd. -W/#13925
12	Tree contacting primary		NE corner Old Jacksonville Rd. & Spring Creek Rd.
12	Map does not reflect field condition -riser and UG not shown		Spring Creek Rd. @ Cell phone tower -N/Old Jacksonville Rd.
13	Vines over top of transformer		Spring Creek Rd. N/Old Jacksonville Rd. @ trf (602823)
13	Trees close to primary		Spring Creek Rd N/ Old Jacksonville -just S/#1598
13	Recommend fuse on tap		Spring Creek Rd N/ Old Jacksonville -tap to trf (606266)
15	Cross arm appears to be broken		Berlin: Lincoln (extension) N/County Hwy 10 & S/7th St.
16	Trees close to primary		Berlin: N/Old Jacksonville @ Washington -next to preschool
20	Trees close to primary		Tap to #495 N. Spring Creek Rd.
21	Split pole top with leaning pole top pin		Prairie Creek Rd. 4th E/N. Springhill (pole # 2472889)
21	Tree contacting primary		#12780 Prairie Creek Rd.
23	**NESC: Pri conductor appears low: +/- 16' clearance**		2nd span S/ #2157 S. Wake Rd.
23	Trees close to primary		At #2157 S. Wake Rd.
25	Trees close to primary		Prairie Creek Rd. E/#12780 & W/Wake Rd.
27	Recommend fuse on tap		Knepler @ Old Jacksonville Rd.
37	Tree contacting primary		Booth Rd. E/McQueen -W/ riser (660460)
39	Top bolt loose in pole top pin		Braner Rd. -2nd from E/L W/Parks Kinner Rd.
40	Pine burning on primary		South end of Farley Rd. -S/I-72 near trf (602806)
41	Lots of split arms & missing insulators on de-energized line	3 to 8	Bunker Hill Rd. -E/Farley Rd.
43	Trees close to and contacting primary		Corner of Old Jacksonville Rd. & Farley Rd.
44	Loose nut on neutral insulator		Farley Rd.-3rd or 4th W/trf(602792)
47	Trees close to primary		#8796 Old Jacksonville Rd.
47	Vine grown up pole to primary	1	# 8376 Old Jacksonville Rd.